



**Applied Concept**

# **The Military Information Operations Function within a Comprehensive and Effects-Based Approach**

**Coordinated Draft Version 3.0**

This is the final MNE 5 document on "The Military Info Ops Function within a Comprehensive and Effects-Based Approach".

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14. ABSTRACT <b>This concept paper is based on the Multinational Information Operations Experiment (MNIOE) White Paper "Information Activities in Future Coalition Operations a Comprehensive Approach (from a Military Perspective)", dated 31 May 2007, which was coordinated and agreed among Multinational Interoperability Council (MIC) Partners and MNIOE participating nations and organisations at working level. The White Paper describes a common understanding of the Information Operations (Info Ops) function developed by the MNIOE participants during a lengthy course of discussions (since 2003). Meanwhile, this understanding has affected current national and multinational concept development, e.g., that of the European Union and NATO; many of the MNIOE group of experts were involved in the preparation of NATO's Allied Joint Doctrine for Info Ops. In order to further promote the MNIOE conceptual approach to Info Ops in an applied operational context, this Applied Concept also builds on AJP-3.103 in its current version, amending/adjusting the original as required.</b>		
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## Preface

28 This concept paper is based on the Multinational Information Operations Experiment  
29 (MNIOE)<sup>1</sup> White Paper "Information Activities in Future Coalition Operations – a  
30 Comprehensive Approach (from a Military Perspective)", Final Draft, Version 1.8,  
31 dated 31 May 2007, which was coordinated and agreed among Multinational  
32 Interoperability Council (MIC) Partners<sup>2</sup> and MNIOE participating nations and  
33 organisations at working level. The White Paper describes a common understanding  
34 of the Information Operations (Info Ops) function developed by the MNIOE  
35 participants during a lengthy course of discussions (since 2003). Meanwhile, this  
36 understanding has affected current national and multinational concept development,  
37 e.g., that of the European Union and NATO; many of the MNIOE group of experts  
38 were involved in the preparation of NATO's Allied Joint Doctrine for Info Ops.

39 In order to further promote the MNIOE conceptual approach to Info Ops in an applied  
40 operational context, this Applied Concept also builds on AJP-3.10<sup>3</sup> in its current  
41 version<sup>4</sup>, amending/adjusting the original as required.

42 Major critical issues for change, reflected in this document, are:

- 43 • the desired emphasis on effects-based thinking and an effects-based  
44 approach to operations, considering all relevant actors in their multiple roles;
- 45 • the proposed scope of advice and co-ordination concerning effects in the  
46 information environment – not limited to those actions deliberately designed to  
47 affect the information environment (information activities), and not focused on  
48 adversary<sup>5</sup> decision-makers<sup>6</sup> only;
- 49 • the envisioned role of Public Affairs related to Info Ops – fully integrated in the  
50 co-ordination process for effects in the information environment and  
51 information activities;
- 52 • the requirement for mission-specific strategic and political guidance for  
53 information activities in the suggested format of a multinational Information  
54 Strategy; and
- 55 • the aspired applicability of proposed processes and structures regardless of  
56 organisational form – national contingents, Coalition or Alliance.

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<sup>1</sup> Germany has established MNIOE in 2003 as a national initiative to further develop the military Information Operations (Info Ops) function in the context of enhancing future Coalition interoperability through collaboration in multinational Concept Development and Experimentation (CD&E). The MNIOE project is initially designed to explore, refine, verify and validate recommendations to the Multinational Interoperability Council (MIC). This remains the primary role of the MNIOE project. At the same time MNIOE is also supporting the development and implementation of Info Ops concepts, policy and doctrine for use in national, Coalition and/or Alliance operations/missions.

<sup>2</sup> MIC Partners are: AUS, CAN, DEU, FRA, GBR, ITA and USA.

<sup>3</sup> Allied Joint Publication 3.10: 'Allied Joint Doctrine for Information Operations'.

<sup>4</sup> AJP-3.10 Ratification Draft (issued 20 October 2008).

<sup>5</sup> Throughout this publication, the term '**adversary**' includes potential as well as actual adversaries.

<sup>6</sup> The term '**decision-maker**' is used in its broadest sense throughout this document. They include political and other leaders and military commanders, influential individuals, military personnel, armed factions and specific population groups (e.g. ethnic, cultural, religious and political).

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## Chapter 1 – Introduction to Information Operations

### Section I – Background

101. The Global Security Environment. The security environment<sup>7</sup> in the 21<sup>st</sup> Century is characterised by fundamental changes: it is more complex and involves a great deal of uncertainty about potential origins of challenges to stability and peace. Risks and threats are more diverse, motivate asymmetric warfare<sup>8</sup>, and tend to exceed our current security-related capabilities. This results in profound changes to crisis/conflict prevention and resolution, including multinational interventions<sup>9</sup>. There is also an expectation in some societies, reinforced by media exposure of global issues, that conflict and confrontation will be constrained by increasingly moral codes and regulated by progressively more extensive legal obligations. Concurrently, there has been an 'information revolution' – mainly driven by the rapid development of Information Technology (IT) – that has ushered in an age of computer-aided decision-making, and which created information societies<sup>10</sup>. Understanding this evolving information environment<sup>11</sup>, including underlying causes and dynamics of instability, is the most essential prerequisite for crisis/conflict prevention and resolution. As we live in an information-dominated environment there is an increased reliance on, and desire for, information. In addition, the impact of real-time media coverage of crises, the exploitation and manipulation of the media by some parties and the ever-increasing use of technologies such as the Internet has resulted in a world where information plays an increasingly important or even decisive role. In order to address substantial changes in both the evolving global security situation and the information environment, concepts, processes and doctrine are being developed to deal with these new challenges. Effective and efficient actions require integrated application, and the continuous consideration of the information factor throughout all related processes – analysis, planning, execution and assessment.
102. Strategic Guidance. Military action alone cannot resolve crises, but it can set the conditions for resolution by other actors, including the use of the full suite of national power provided by partner states. During planning and throughout operations the military identifies how it may best support, and be supported by,

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<sup>7</sup> The '**security environment**' is a complex political-military web of regional, cultural, and political competitions and conflicts, involving threats to vital interests posed by a variety of actors.

<sup>8</sup> '**Asymmetric warfare**' is characterised by engagements between forces of dissimilar capability and doctrine (*modus operandi*).

<sup>9</sup> The term '**intervention**' is not intended to imply a purely military intervention. It is intended to describe activities by a broad range of civil and military actors in an interagency context.

<sup>10</sup> An '**information society**' is a society in which the creation, distribution, diffusion, use, and manipulation of information are a significant economic, political, and cultural activity.

<sup>11</sup> The '**information environment**' is defined as the virtual and physical space in which information is received, processed and conveyed. It consists of the information itself and information systems. ('**Information systems**' are defined as socio-technical systems for the collection, processing and dissemination of information. They comprise personnel, technical components, organisational structures, and processes that create, collect, perceive, analyse, assess, structure, manipulate, store, retrieve, display, share, transmit and disseminate information.)

other areas of activity<sup>12</sup>. Information activities<sup>13</sup> – within the scope of any area of activity – will need to relate back to overall direction and guidance, i.e., to an Information Strategy<sup>14</sup> that sets forth Information Objectives<sup>15</sup>. It must be coordinated between governments and provided through national government authorities. As the political/military situation evolves and matures for a given operation, revised/updated strategic guidance could be provided to adjust the planning and conduct of information activities accordingly.

103. Non-Kinetic Activities. While Information Objectives may be accomplished through kinetic or non-kinetic means, as effects-based thinking is applied, there is likely to be an increased focus on non-kinetic activity. A large element of operations is non-kinetic and recent military missions have shown its significance by increasing the commander's choice of means by which effect can be achieved at all stages of a crisis. However, it is not only the movement towards an effects-based approach to operations<sup>16</sup> that has brought about this new emphasis on non-kinetic activity.

104. Information as an Operational Factor. A modern military campaign is a big and complex enterprise. It is composed of multiple and multi-layered essential factors that make up the operational environment and that, however, can still be related to the three basic operational factors: *force, space and time*, supplemented and interlinked by a fourth operational factor: *information*<sup>17</sup>. Control of the operational factors and their interrelationship is the chief prerequisite for success in the planning and execution of any military action; their balancing is the core of operational art.

- a. There are multiple essential factors constituting campaign **force** strength. Force strength of a modern campaign includes not only various arms and services of the military but also civil security forces (such as police and law enforcement agencies). In addition, modern campaigns take on a variety of forms and employ a variety of methods of operation. Offence and defence blend and interchange quickly with other tasks of Stability Operations. This requires overall consideration in employing various operational forms, methods and means and close co-ordination among

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<sup>12</sup> 'Areas of activity' are the national or organisational means to enforce political will or exert influence on others. Broad categories of actions taken to influence a security environment include politics/diplomacy, economy, information and security services (civil and military), as well as cultural/developmental activities, humanitarian assistance, and civil administration support.

<sup>13</sup> 'Information activities' are actions designed to affect information and/or information systems (the information environment), performed by any actor.

<sup>14</sup> The 'Information Strategy' states the comprehensive, interagency and multinational approach across all levers of power to crisis/conflict prevention and resolution in the information environment. It provides mission-specific strategic and political guidance for civil and military information activities in support of mission objectives. For details see Analytical Concept: "Development and Implementation of a Multinational Information Strategy".

<sup>15</sup> 'Information Objectives' are Decisive Conditions in the information environment. They should be measurable to enable analysis, planning, execution/management and assessment/evaluation of related actions and/or effects.

<sup>16</sup> The 'Effects-Based Approach to Operations' (EBAO) – as described in the emerging NATO 'Concepts for Alliance Future Joint Operations' (CAFJO) – is an interpretation of the broad approach to security, which recognizes the importance of political, economic, social and environmental factors in addition to the indispensable defence dimension. See Chapter 1, Section III: 'Principles of Information Operations', and Chapter 3: 'Info Ops in the Effects-Based Operations Process'.

<sup>17</sup> See Figure 1.

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them, and the integration in an interagency context. There is a high degree of dependency among various essential factors making up campaign force strength. Thus, there is a higher demand for overall co-ordination in order to achieve coherent effects through rationally configuring and organising various capabilities, actors and resources.

- b. The operational **space** of modern military campaigns is vast, and full depth and multi-dimensionality have become an important characteristic of a modern operational environment. Operations of a modern military campaign are conducted not only on the ground, in the sea and the air, but also in outer space, underground, under water and in the virtual environment (e.g., cyberspace), which is of particular relevance to the information factor. Campaign operations place a high demand on the integration of all dimensions in this respect.
- c. The factor of **time** indispensably interlinks the factors of force and space. Time determines the employment of force in a given theatre of operations. It is the scarcest resource that cannot be re-supplied or by-passed. The essence of Command & Control (C2), seeking overall effect toward accomplishing campaign objectives, is the employment of the right force to the right place at the right time. The interdependency between time and the other operational factors requires their continuous consideration as dynamic determinants in the decision and execution cycle or the operational planning process, respectively.

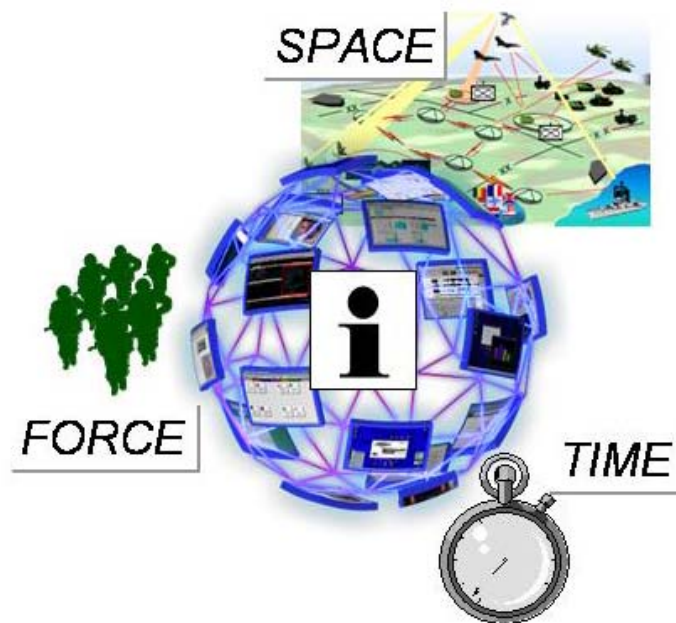


Figure 1: The Fourth Operational Factor 'Information'

- d. **Information** is understood as an assembly of data in any medium or form capable of communication and use by assigned meaning through known conventions used in symbolic representation.<sup>18</sup> There are three basic

<sup>18</sup> Based on: USA JP 1-02 – Department of Defense Dictionary of Military and Associated Terms.

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features of information that need to be considered for planning, execution and assessment of operations:

- (1) Development of Knowledge. Information is data interpreted in a context, and in turn, enables the linkage of data as a basis for the development of knowledge – this function is a prerequisite for developing situational awareness and understanding;
- (2) Communication. Information enables humans to communicate and act in a social environment – this function *inter alia* is a prerequisite for effective C2;
- (3) Automation. Information enables automated systems to function without direct involvement of human reasoning – this function constitutes a decisive factor for new technological advances, including the whole range of sensors and effectors.

105. In modern information societies the creation, distribution, diffusion, use, and manipulation of information is a significant economic, political, and cultural activity. Thus, information is a decisive factor *per se* and will increasingly affect the factors force, space and time. Perception and awareness gained from analysis of collected information and personal observations have long been an integral part of human existence; those with a superior ability to gather, understand, control and use information have gained a substantial advantage. The ability to manage and employ information underpins activities in diplomatic, military, economic and other areas of activity, maintaining own/friendly freedom of action. From the strategic to the tactical level and across the range of military operations, information plays a vital role in the manner in which decisions are made. The success of military operations may rest on the perception of all actors involved. There is therefore considerable benefit to be gained by affecting the flow of information through a decision-maker and his understanding of that information.

106. The Impact of the Media. All crises occur under the spotlight of the international media. The maintenance of understanding and support of public opinion is crucial for democratically accountable governments, and this influences<sup>19</sup> the options they can take, including military action, and the presentation of these options to different audiences. In order to gain and maintain public support, national governments and international organisations/agencies need to show a degree of transparency in their actions, and these actions must be in accordance with international law. The influence of the media has increased as access to regional and international media has increased. This has been brought about by technologies such as satellite broadcasting and global connectivity through the Internet. In addition, the availability of relatively cheap printing and copying equipment has brought newspapers and other printed material to a much wider audience. Consequently, there is a need to be proactive in ensuring that the presentation of actions is accurate and reflects approved themes and messages, while at the same time countering other actors' attempts to undermine public support.

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<sup>19</sup> The Concise Oxford English Dictionary defines the term '**influence**' as 'the capacity to have an effect on the character or behaviour of someone or something, or the effect itself'. This benign definition provides the meaning of 'influence' throughout this document.

107. The Impact of Technology and the Internet. In addition to the role played by technology in increasing access to the media, there is an ever-increasing dependence on IT systems. Computers now pervade society; they also form the core of most military systems, especially communications systems/signals support and Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR). This increased reliance on computer technology introduces new opportunities that can be exploited, and new vulnerabilities that must be addressed. In addition, technology has provided a new means of direct access to information via the Internet. That information is absorbed without necessarily knowing its validity and source. In some cases, considerable credence is placed on it; this is particularly so in societies without a free press. The Internet is used to spread or circulate information and opinion, including rumour, with a speed inconceivable a few years ago. The Internet is an unrestricted and unregulated medium, available globally, which an adversary can exploit either to spread his message, as a vehicle to attack friendly systems, or as an open source of Intelligence (INTEL).

## Section II – Fundamentals of Information Operations

108. Definitions. The definitions of *Information Operations (Info Ops)* and *information activities* are as follows:

- a. Info Ops is a military function to provide advice and co-ordination regarding activities affecting<sup>20</sup> information and information systems – including system behaviour and capabilities – in order to create desired effects.
- b. Information activities are actions designed to affect information and/or information systems. They can be performed by any actor and include protective measures.<sup>21</sup>

109. Approach. The approach to the Info Ops function outlined in this document is based on the following ideas:

- a. Systemic Understanding. As the effects-based approach to operations draws from an *understanding of the operational environment as a 'system-of-systems'*, a concept for Info Ops in this context requires the identification and application of relevant systems<sup>22</sup>. The MNIOE approach introduces a distinctive understanding of socio-technical information systems<sup>23</sup>, which provide the core functionality of modern societies in the above understanding. Systemic understanding results from Systems Analysis, which is based on a combination of methods from various approaches, such as Systems Theory, Complexity Theory and Network

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<sup>20</sup> The term '**to affect**' is used throughout the document in a generic sense meaning: 'to have an effect on', without any pre-defined (positive or negative) connotation.

<sup>21</sup> This definition is common to both MNIOE and NATO AJP-3.10; it is authoritatively defined in NATO's Military Policy on Public Affairs (MC 457/1).

<sup>22</sup> The concept of '**systems**' used in this context includes both human as well as technical factors.

<sup>23</sup> '**Information systems**' are defined as socio-technical systems for the collection, processing and dissemination of information. They comprise personnel, technical components, organisational structures, and processes that create, collect, perceive, analyse, assess, structure, manipulate, store, retrieve, display, share, transmit and disseminate information.

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Theory. Systems Analysis of information systems is a prerequisite for gaining a comprehensive and systemic view of the operational environment.

- b. A New Mind-Set. In the information age the strategic, operational and tactical levels are more interrelated than in the past, which demands a different quality of co-ordination and C2 across the levels of engagement. Today's military operations to counter the complex challenges of the global security environment require consideration and integration of the information factor throughout all processes – analysis, planning, execution and assessment. This integration demands that all decision-makers at all times appropriately understand the (possible) effects of their actions in the information environment: it is not just about deliberate activity using information through means of communication; it is the combination of words and deeds that delivers the ultimate effect. A respective systemic understanding of the information environment should result in a consistent and coherent orchestration of all available means, comparable to the military concept of 'combined arms combat' or the philosophy of 'jointness' in operational art. This is a new mind-set, which requires comprehensive *education and training* rather than restructuring military organisations. Education and training are long-term processes and must be addressed as soon as possible.
- c. Advice and Co-ordination. The Info Ops function is understood as an integrating process rather than a capability in its own right. It provides advice to the commander and his<sup>24</sup> staff on effects and possible information activities, and proposes solutions from a generalist's perspective, based on a comprehensive and systemic understanding of relevant factors of the operational environment, including cross-cultural communication. This includes the preparation, integration, monitoring and assessment of capability contributions, and the co-ordination of actions to create synchronised effects considering their relationships and interdependencies and associated resources as a function of time and space. Co-ordination<sup>25</sup> is related to the harmonisation of actions and effects to promote desired (and avoid undesired) effects. Synchronisation is related to the timing of actions and considers time dependencies of effects. The MNIOE approach applies a '*process management philosophy*' to Info Ops and stipulates cooperative arrangements – instead of command relationships and a fixed allocation of capabilities to Info Ops – with the aim of full scope co-ordination and integration of options, and better flexibility and adaptability to mission and situation requirements.

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<sup>24</sup> Throughout the document, pronouns are to be understood gender-neutral; they should neither reveal nor imply the gender or sex of a person.

<sup>25</sup> '**Co-ordination**' refers to consultation in order to forge common action or harmonisation in a concerted manner. Co-ordination activities can involve both subordinates as well as those organisations over which the commander has no authority. Co-ordination results in carefully planned and executed activity in which the various elements involved in an operation – military and civil – are harmonised in such a manner as to provide the greatest advantage to the overall mission. Co-ordination does not require command relationships (subordination) but active participation of all involved. The co-ordination process usually is organised by the assignment of Coordinating Authority.

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110. Focus of Info Ops. An actor's effectiveness is a function of will,<sup>26</sup> understanding<sup>27</sup> and capability<sup>28</sup>. In other words, actors must have the will to act, an understanding of the situation to act, and possess the capability to act. If any one of these elements is not in place, their ability to act in the way they want to will be affected. Generally conflict focused, military campaigns have, in the past, aimed primarily at affecting an adversary's capability, with the secondary aim of affecting his will. Activities advised by and coordinated through Info Ops address all three dimensions, i.e., influencing will, affecting understanding, and targeting those capabilities that promote understanding or the application of will – ultimately in order to change behaviour.

Effects in the information environment can be created by a variety of military activities, the close co-ordination of which will contribute to the achievement of Information Objectives. Info Ops covers three inter-related activity areas:

- Activities that focus on changing, influencing, or reinforcing perceptions and attitudes of adversaries and other approved parties.
- Activities that focus on preserving and protecting own/friendly freedom of manoeuvre in the information environment by defending the data and information that supports own/friendly decision-makers and decision-making processes.
- Activities that focus on countering command functions and capabilities, by affecting the data and information that support adversaries and other approved parties, and are used in C2, ISTAR, and weapon systems.

111. The Info Ops function ideally considers the full range of military operations. The following are examples of how to support mission accomplishment in all military operations by creating effects in the information environment:

a. Will. Military activities may be aimed at actors at any level capable of influencing the situation.

(1) Military activities can influence other actors' will and undermine cohesion. For example, questioning the legitimacy of leadership and cause may weaken their moral power base, separating leadership from supporters (political, military and public), thus degrading their desire to continue and affecting their actions.

(2) Military activities can protect those capabilities – for example friendly command, control and communications infrastructure – that allow us to exercise effective command, and to seize and maintain the initiative. Countering adversary attempts to influence the will of own/friendly actors can isolate the adversary, maintain coalition cohesion and enhance own freedom of action.

b. Understanding. Military activities may seek to affect the information available to other actors in order to influence their understanding of a given situation.

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<sup>26</sup> 'Will' includes factors such as motivation, intent, attitude, beliefs and values.

<sup>27</sup> 'Understanding' includes an actor's perceptions of a given situation and an actor's situational awareness of that situation.

<sup>28</sup> A 'capability' is understood as a combination of ways and means to perform tasks or create an effect under specified conditions.

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(1) Military activities can deny, degrade, disrupt and manipulate the information available to a decision-maker in order to affect perception and thereby understanding. Manipulation of information in these ways may directly affect the decisions and actions of other actors, enabling own/friendly Information Superiority<sup>29</sup>.

(2) Military activities can also ensure that the information available to friendly decision-makers is safeguarded and assured. In this way, shared understanding between partners will be possible (provided the appropriate mechanisms are in place), thus improving own/friendly decision-making and effectiveness. In addition, providing factual information to other approved parties can gain their support or undermine efforts of an adversary attempting to gain support from them.

c. Capability. Military activities may affect those capabilities – such as command, control and communications infrastructure and facilities – that support understanding a situation, decision-making, and the application of will (i.e., focused action):

(1) Military activities can degrade, disrupt, deceive, destroy or deny those capabilities that allow adversary decision-makers to increase their understanding; bolster, impose, apply and sustain their will; and to exercise effective command. Military activities can also attack the source of the adversary decision-maker's power base, splitting internal and external groupings and alliances. In addition, they can be directed at any information-based processes that enable the employment of weapon systems.

(2) Military activities can protect those capabilities that allow us to exercise effective command, and seize and maintain the initiative. Capabilities can be protected directly by providing materiel and advice, or indirectly by targeting those adversary capabilities that could be used for an attack.

112. Summary. The military Info Ops function will support the integration of the information factor in analysis, planning, execution and assessment of military operations – and complement respective education and training efforts. Info Ops advice and co-ordination will integrate military activities to influence will and understanding; affect capabilities; exploit information and information systems; protect own information and information systems; and counter adverse information activities.

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<sup>29</sup> 'Information Superiority' is the state of a relative superior ability of an actor to collect, process, and disseminate information compared to competitors in the same arena and to draw an operational advantage from it. (Based on: USA JP 1-02 – Department of Defense Dictionary of Military and Associated Terms.)



### Section III – Principles of Information Operations

113. Effects-Based Approach to Operations. Modern military operations are likely to be more efficiently conducted by adopting an effects-based approach. The individual elements that comprise an effects-based approach are not new; it is a philosophical change in the way to plan, conduct and assess operations. It puts a stronger focus on cause and effect *versus* target-centric attrition. Effects-based thinking facilitates the appropriate build-up of forces, effective C2, comprehensive targeting and flexible plan execution; enhances the ability to task-tailor forces according to desired effects; and supports the integration of multinational contributions across the spectrum of levers of power and all stages of conflict – from pre-crisis (peacetime) to post-conflict. It involves the coherent planning, execution and assessment of actions by all involved organisations – together with the use of modern technology and novel approaches to enhance situational understanding – that brings new possibilities to the way future operations will be conducted.
114. Info Ops is an integral part of the military application of the effects-based approach, intended to achieve synergy through the co-ordination and synchronisation of military information activities integrated with other actions. The Info Ops integrating function involves the selective combination of lethal and non-lethal effects, kinetic and non-kinetic means to achieve campaign objectives.
115. Commander's Direction and Personal Involvement. The commander's personal involvement drives Info Ops, and exercises control over all Info Ops activity within a framework of timely decision-making and consultation up and down the chain of command. Following mission analysis, the commander formulates his initial intent, which reflects higher guidance. Tactical level planning is based on that intent, which must have a clearly defined military end state and identify the effects required to achieve the relevant objectives. Without this guidance, the Info Ops effort will lack focus and will not support the creation of desired effects.
116. Close Co-ordination and Sequencing. The very nature of Info Ops and the large, diverse target set means that there needs to be very close integration within a command, and consistency with mission-specific strategic and political guidance for information activities. All plans and activities must be coordinated, de-conflicted and synchronised up, down and across the chain of command with other military, political and civil activities in order that one activity does not compromise, negate or diminish the desired effect of another.
117. Centralised Planning and Decentralised Execution. Due to the requirement for full integration of the Info Ops function, the principles of centralised planning and decentralised execution apply at all command levels. However, centralised execution may be required for certain types of targeted information activities, when all involved force elements are required to adhere rigidly to a plan, or where strategic assets are used.
118. Input to Joint Targeting. Effective targeting requires a detailed understanding of the operational environment and the commander's objectives. Military

information activities may include a wide range of actions and will be conducted by kinetic and/or non-kinetic means delivering lethal and/or non-lethal effects. The relevant functional/capability experts and the Info Ops staff identify effects in the information environment required to achieve the commander's objectives and a range of actions that, when integrated into the overall campaign plan, will achieve those objectives. Info Ops will co-ordinate the assessment of the (possible) impact of activity and propose appropriate action.

119. Early Involvement and Timely Preparation. Info Ops involvement in planning must start early, because both planning and execution take time and results can be slow to emerge. Hence, a commander's intent towards the information environment, and direction as part of the planning process, must be given at the earliest opportunity. Info Ops staffs need to be fully involved in the planning process to integrate the information factor within the overall campaign plan.

120. Monitoring and Assessment. The successful prosecution of Info Ops relies on continuous monitoring and assessment of the short and long-term effects of interrelated activities, directed towards Information Objectives. Particular attention should be paid to changes in the adversary's behaviour and such other items as changes in the attitude of the civilian population, political activity, and expressions of unrest. Also, changes in an adversary's capability may be used as an indicator for measuring success, e.g., reduced efficiency, disorganisation and slower reactions to events and specific actions in response to deception.

## Section IV – Capabilities, Tools and Techniques

121. Military Capabilities and Functions. Military capabilities provide the ability to create a desired effect in a specific operational environment. Capabilities can be people, assets, means and methods, as well as structures, systems and specific characteristics of these. Functions are generally performed by staff activities for the purpose of orchestrating available capabilities to achieve mission objectives.

122. The Info Ops function is concerned with integrating activities affecting information and/or information systems to create desired effects using military capabilities. Various capabilities and functions may contribute information activities by either applying their full scope of actions or parts of it, on a permanent or temporary basis, as determined by the commander. Info Ops must be applied to the whole spectrum of military operations and meet the requirements for asymmetric warfare and networked operations in the light of rapid technological developments in order to combine the valuable contributions of various (national) military capabilities. Specific military capabilities and functions required for performing information activities can be derived from their defined purpose and their role related to information and information systems.

123. The three inter-related activity areas described in Paragraph 110 can make use of all or any capability or activity that can exert influence, affect understanding or have a counter-command effect; the extent is only limited by imagination, availability, policy, doctrine and legal constraints. However, there are several capabilities, tools and techniques that form the basis of most activity affecting

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the information environment. Information Objectives can be achieved by the planned co-ordination and synchronisation of military capabilities, tools and techniques to create effects on information or information systems, such as direct and indirect communication, and by using the electromagnetic spectrum or computer networks. The use of force, such as coercion and destruction, may also combine with those means, e.g., by delivery of specifically targeted fires, which can create considerable effects in the information environment. Clearly, many of these tools and techniques have a much wider application than just in the information environment though the potential unintended effects of such activity must always be considered.

124. Identification of force capability shortfalls is an important aim of multinational CD&E efforts in the armed forces' transformation process. This document provides a broad description of the *scope and scale of military activities* suitable to affect information and/or information systems – with a view on current and emerging capabilities – and suggests related capability requirements for future multinational operations. The following paragraphs<sup>30</sup> provide examples of capabilities, tools and techniques that can be used for achieving Information Objectives.

125. Key Leaders Engagement. Key Leaders Engagement (KLE) is the planned and coordinated use of the senior leadership of the friendly force to influence key decision-makers / opinion shapers / influencers / leaders in the assigned area of operations in support of the commander's objectives. Related information activities include:

- a. bilateral talks (BILATs) of senior leaders with military and civilian counterparts at their level of influence;
- b. speeches held at various occasions in the presence of the media and/or key decision makers;
- c. featured interviews to selected media with wide influence;
- d. conferences arranged to discuss specific items of interest with influential characters.

126. The commander may delegate selected members of his command group and special staff to perform respective high-level functions. In particular, the Political Adviser (POLAD) may be able to exert influence on high-ranking civil actors such as local government authorities or representatives of the International Community. The Chief Public Affairs Officer (CPAO) is the primary contact for the media<sup>31</sup>; he is authorised to speak on behalf of the commander, and is responsible for the dissemination of messages to the media throughout the operation, in consultation with the Chief Info Ops.

127. As part of the Info Ops contribution to an operation it is vital that all key actors and their inter-relationships are identified. Having detailed knowledge of relevant stakeholders' personalities, leadership styles, ambitions, motivations, objectives (short and long term), current stances, dependencies, psychological profiles and personal histories will be essential to provide the context to plan

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<sup>30</sup> The sequencing of the paragraphs is not meant to indicate any order of priority, nor does it propose any standard allocation of capabilities/activities to the Info Ops function.

<sup>31</sup> This function may also be performed by the Spokesperson (if established).

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appropriate information activities. An important component in all plans will be to recognise the complex, adaptive relationships and dependencies that exist between actors. The Info Ops staff will compile dossiers – based on INTEL products and input provided by other functions/capabilities, such as PSYOPS, CIMIC, etc. – that present relevant background information on key actors to be engaged (e.g., *curricula vitae*) and other information in support of targeted messaging (similar to traditional 'target folders').

128. The Info Ops staff coordinates the Key Leaders Engagement Plan (KLEP), the purpose of which is to de-conflict and streamline command group information activities. It provides an overview of actors, dates and times, locations, contents and objectives, related to specific milestones of an operation. Info Ops responsibilities include the tracking and assessment of the KLEP, in close co-ordination with the CPAO.

129. Psychological Operations. Psychological Operations (PSYOPS) are planned psychological activities using methods of communication – including media products and face-to-face communication – and other means directed at approved audiences in order to influence perceptions, attitudes and behaviour, affecting the achievement of political and military objectives. PSYOPS are conducted to convey selected information and indicators to governments, organisations, populations, groups and individuals, with the aim of ultimately changing their behaviour and decisions. Successful PSYOPS weaken the will of an adversary, reinforce the feelings and stimulate the co-operation of the loyal and sympathetic, and gain the support of the uncommitted.

130. PSYOPS contribute to create effects in the information environment by affecting the decision-making of selected actors either directly and/or indirectly through addressing their respective public or military forces.

131. Electronic Warfare. Electronic Warfare (EW) includes military actions to exploit the electromagnetic spectrum which encompasses the interception and identification of electromagnetic emissions; the employment of electromagnetic energy to reduce or prevent adversary use of the electromagnetic spectrum; and actions to ensure its effective use by friendly forces.

132. EW comprises the disciplines of Electronic Counter Measures (ECM), Electronic Support Measures (ESM) and Electronic Protective Measures (EPM):

- a. ECM offer an alternative to the use of physical force on information systems. Furthermore, the footprint of PSYOPS broadcasts may be enhanced and deception supported by the coordinated use of ECM.
- b. ESM provide information and INTEL as part of All-Source Intelligence at all levels for Info Ops analysis, planning and assessment.
- c. EPM is critical for all operations and can support Operations Security (OPSEC) and Force Protection objectives of the force commander.

133. Overall, EW can support operations so that critical information on which an adversary will make a decision, or the information systems for carrying such information, can be affected to own advantage.

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- 594 134. Computer Network Operations<sup>32</sup>. Computer Network Operations (CNO) use  
595 technically advanced approaches to enter computer networks and attack or  
596 exploit the data, the processes or the hardware; they include activities against  
597 the confidentiality, integrity and availability of computer data and systems as  
598 well as protective measures.
- 599 135. CNO comprises the interrelated activities of Computer Network Exploitation  
600 (CNE), Computer Network Attack (CNA), and Computer Network Defence  
601 (CND).
- 602 a. CNE provides the ability to get information about computer systems, to  
603 gain access to information hosted on computer systems and the ability to  
604 make use of the information and the system itself.
- 605 b. CNA are operations to disrupt, deny, degrade, or destroy information  
606 resident in computers and computer networks, or the computers and  
607 networks themselves.
- 608 c. CND includes the preventive protection of own computer systems and  
609 measures to block and counter adversary CNA and CNE.
- 610 136. Operations Security. OPSEC is an analytical process intended to reduce the  
611 risk to a military operation by adversary INTEL exploitation and maintain  
612 freedom of action by preventing adversary foreknowledge of friendly  
613 dispositions, capabilities and intentions. The OPSEC process:
- 614 a. identifies critical information and determines what indicators hostile INTEL  
615 systems may obtain that could be interpreted or pieced together to derive  
616 critical information in time to be useful to adversaries;
- 617 b. analyses the susceptibility of information to exploitation by hostile INTEL  
618 systems (vulnerabilities);
- 619 c. analyses hostile INTEL systems and operational capabilities, motivation,  
620 and intentions designed to detect and exploit vulnerabilities (threat  
621 analysis);
- 622 d. assesses the potential degree to which critical information is subject to  
623 loss through hostile exploitation (risk analysis);
- 624 e. selects and executes counter-measures that eliminate or reduce to an  
625 acceptable level the vulnerabilities of friendly actions that may be exploited  
626 by adversaries.
- 627 137. OPSEC is concerned with the achievement of secrecy and surprise in military  
628 operations and activities through protection of capabilities and intentions from  
629 hostile INTEL exploitation. The ultimate objective is to prevent an adversary  
630 from obtaining sufficient information in a timely manner to predict and degrade  
631 own operations or capabilities. Effective OPSEC contributes to Information  
632 Superiority.
- 633 138. OPSEC also reduces or negates the signatures of indicators which could be  
634 pieced together to reveal critical information already protected by established  
635 security procedures such as Information Systems Security (INFOSEC),  
636 Communications Security (COMSEC), Computer Security (COMPUSEC),  
637 Document Security, Physical Security and Personnel Security. OPSEC

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<sup>32</sup> In NATO, CNO is defined as 'Cyberwar' and also includes 'Cyber Defence'.

concentrates on those activities that could indicate the existence of an organisation, impending operation, or its details, reveal intentions, dispositions, capabilities and potential vulnerabilities. These activities are then given additional protection using a range of counter-measures.

139. Military Public Affairs<sup>33</sup>. Military Public Affairs (PA) is the function responsible for promoting the force's military aims and objectives to the public in order to enhance awareness and understanding of the mission. This includes planning and conducting media relations, internal communication and community relations.
140. In a democracy, military forces are responsible and accountable to the public for the performance of their mission. PA is the primary means to reach the general public. Therefore, PA is a command responsibility of the highest priority. PA at each level of command directly supports the commander, and may therefore not be further delegated or subordinated to other staff functions.
141. PA activities are information activities. PA is a key contributor of effects in the information environment and has an important role in implementing an Information Strategy. Therefore, other information activities must be closely coordinated with PA in order to ensure consistency in the message released by the military to outside audiences and to promote overall effectiveness and credibility of the campaign.
142. Civil-Military Co-operation. Civil-Military Co-operation (CIMIC) is the co-ordination and co-operation, in support of the mission, between the military and civil actors, including national population and local authorities, as well as international, national and non-governmental organisations and agencies<sup>34</sup>. CIMIC facilitates co-operation between a military force and all parts of the civilian environment within the assigned area of operations by civil-military liaison, support to the civil environment, and support to the force. This includes:
- a. considering social, political, cultural, religious, economic, environmental and humanitarian factors when planning and conducting military operations;
  - b. liaison and co-ordination with International Organisations (IOs) and Non-Governmental Organisations (NGOs);
  - c. forging an effective relationship between the military and indigenous civilian authorities, organisations, agencies and populations within the area of operations.
143. The CIMIC staff need to establish relations with a variety of civilian authorities and agencies, and will be a valuable source of information to assist planning for information activities. CIMIC also needs to coordinate with other capabilities that

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<sup>33</sup> Also known as 'Public Information'.

<sup>34</sup> The meanwhile widely accepted NATO term 'CIMIC', which describes a military capability, must not be confused with the '**Civil-Military Co-ordination**' concepts of the European Union (CMCO) or the United Nations (CMCoord): CMCO in the context of Common Foreign and Security Policy/European Security and Defence Policy addresses the need for effective co-ordination of the actions of all relevant EU actors involved in the planning and subsequent implementation of EU's response to the crisis; the approach of UN-CMCoord is designed to address the need for co-ordination of the activities of international civilian humanitarian actors, especially the UN humanitarian agencies, and international military forces in an international humanitarian emergency.

address civil audiences and affect civil information systems in order to assist the creation and sustainment of conditions that support the achievement of the commander's objectives. Depending on the situation and mission requirements CIMIC activities (within the scope of CIMIC tasks) may directly contribute to influence key decision makers or become part of a campaign to win the trust and co-operation of the local populace.

144. Troop Information<sup>35</sup>. An inherent part of leadership and training for each commanding officer is the responsibility for keeping all personnel under his command informed of the situation, their role in the mission, their personal responsibilities, and the strengths and weaknesses of the unit which they serve.
145. Troop Information programs generally are designed to help instil in each individual the qualities and character traits required of a combat effective soldier. This includes theatre specific cultural awareness and the implementation of appropriate 'rules of behaviour'. In addition, Troop Information can support Counter-Intelligence (CI) awareness and prevent hostile propaganda from becoming effective. Commanders establish Troop Information programs to fulfil the particular needs of their commands. To the extent possible, Troop Information should be conducted at the lowest unit level to facilitate communication and exchange of ideas between the unit leader and the individual soldier.
146. The central contents of Troop Information programs must be in concert with the Information Strategy, harmonised throughout the national contingent of each multinational partner, and should, wherever possible, be coordinated between the nations. Info Ops staffs should be kept well informed of their commanders' Troop Information programs to be able to consider own vulnerabilities and adjust Info Ops advice appropriately. Products of Troop Information programs must be in line with PA media guidance and internal communication activities.
147. Special Forces and Forces for Special Operations. Special Operations Forces (SOF) are specially designated, organised, trained and equipped forces using operational techniques and modes of employment not standard for conventional forces. SOF activities are conducted across the full range of military operations independently or in co-ordination with operations of conventional forces to achieve political, military, psychological and economic objectives. Politico-military considerations may require clandestine, covert or discreet techniques and the acceptance of a degree of physical and political risk not associated with conventional operations.
148. SOF can support the assessment of the information environment and provide effective information activities, e.g.:
  - a. Special Reconnaissance (SR) involves a wide range of information gathering activities that focus on strategic or operational objectives designed to give the commander time sensitive information with human insight. SR is the conduct of environmental reconnaissance, target acquisition, area assessment, post-strike assessment, emplacement and recovery of sensors, or support of Human Intelligence (HUMINT) and Signals Intelligence (SIGINT) operations.

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<sup>35</sup> Also known as 'Command Information'.

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b. Direct Action (DA) includes raid, ambush, direct assault, obstacle clearance, and anti-ship operations in pursuit of important targets located within hostile or denied territory. DA targets may be hostile key personnel as well as important elements of information infrastructure.

c. Military Assistance (MA) to foreign states includes education and training, and other military support. When conducted within multinational operations, MA activities must be consistent and conform to the campaign objectives.

149. SOF need to participate in Info Ops co-ordination efforts in order to promote common awareness of activities relevant to information and information systems, and to ensure consistency of the overall appearance of the force.

150. Presence, Posture and Profile. The impact that the mere presence of a force may have on perceptions can be significant. Deploying even limited capability to the right place at the right time can add substantial credibility to messages being delivered through other channels and provide a major contribution to deterrence. The posture of troops on the ground can demonstrate both commitment and intent and must be considered and balanced with the requirements of force protection. The public profile of commanders at all levels will impact on perceptions and therefore the public role of the commander must be carefully analysed and opportunities used to transmit key messages.

151. Military activities and characteristics such as troop presence, posture and profile as well as the performance of the individual soldier in the field bear information content and can be intentionally employed to affect information and/or information systems to create desired effects. Info Ops should contribute to the co-ordination and synchronisation of these elements of military operations to assist full integration of the overall campaign.

152. Deception. Deception is complex and demands considerable effort and a sound understanding of an adversary's way of thinking. Deception operations require an active OPSEC program to deny critical information about both actual and deceptive activities. Knowledge of deception plans must be carefully protected and a 'need-to-know' criterion must be applied to each aspect of the deception operation. Deception during operations can directly contribute to the achievement of surprise and indirectly to security and economy of effort. Ultimately, deception operations must not affect the credibility of the forces and/or political authorities. Info Ops planners must be involved in deception planning in order to ensure that information activities are properly employed in support of deception operations.

153. Physical Destruction. Physical destruction of adversary capabilities – such as massive strikes on enemy forces – in co-ordination with information activities can have enormous effect in support of own objectives. Physical destruction can also create effects on decisive adversary information infrastructure. However, destruction of (elements of) adversary information systems in many cases may not be desirable/proportional or attainable/supportable, in particular concerning those parts of information systems that are required for further exploitation or that may lead to complete denial of information if destroyed. Related effects may be obtained through the use of air-delivered munitions, unmanned aerial vehicles and SOF. Tactical resources such as naval gunfire,



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artillery and manoeuvre forces may also be used to contribute to create effects on information and information systems. In order to appropriately consider these kinetic options and advise on desired and undesired effects, the Info Ops staff needs to be involved in the targeting process, addressing the whole scope of hard and soft targets.

154. Counter-Intelligence. CI includes those activities which identify, assess and counter potential and/or actual threats to the forces' mission and personnel posed by intelligence collection activities of hostile INTEL services, organisations, or individuals engaged in terrorism, espionage, sabotage, subversion, and/or organised crime. CI needs to participate in Info Ops co-ordination efforts in order to promote common awareness of activities relevant to the information environment.

155. Related Enabling Disciplines.

a. Networked Operations<sup>36</sup>. Networked operations consist of C2 and employment of capabilities based on a joint, inter-echelon and interoperable information network – including procedures, organisation and technology – that links all involved personnel, agencies, units and facilities as well as sensors and effectors. They impact all levels of military activity from the tactical to the strategic. At the operational level, networked operations provide commanders with the capability to generate precise effects at an unprecedented operational tempo, creating conditions for the rapid interruption of adversary courses of action. A networked force is linked or networked by an information infrastructure that enables capabilities to share and exchange information among the geographically distributed elements of the force: sensors (regardless of platform); actors and effectors (regardless of service); and decision makers and supporting organisations (regardless of location). In short, a networked force is an interoperable force, a force that has global access to assured information whenever and wherever needed. Across a broad spectrum of mission areas, evidence of the power of networked military operations is emerging from experiments and exercises. Empirical evidence collected to date indicates a strong correlation between information sharing, improved situational awareness and understanding, and significantly increased combat power; this is the actual force multiplier effect. A common theme in this evidence is the critical role of modified (in some cases new) tactics, techniques and procedures, which enable personnel to use an information advantage effectively, enhance C2 and action effectiveness, as well as to provide input into the Common Relevant Operational Picture (CROP)<sup>37</sup>. Info Ops constitutes a basic function in networked operations as the related co-ordination effort contributes to achieving Information Superiority and effective C2.

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<sup>36</sup> See Glossary for definition and reference, as well as related other/alternative concepts.

<sup>37</sup> A '**CROP**' is a rules-based picture of the operating environment that presents data in a way that is relational to the user or the environment. This promotes interagency and cross-jurisdictional information sharing by giving each user access to the information that they need based on their security clearances and organisational needs.

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- b. Intelligence. The purpose of INTEL is to support political and military authorities in the planning, execution, and assessment of military operations in peace, crisis and conflict. INTEL generates the basics for military planning, to include assessment and targeting, and provides an indispensable prerequisite for effective C2. INTEL also provides the Intelligence Preparation of the Battlespace (IPB), the resources and instruments that enable military capabilities to operate effectively. Furthermore, it supports effects assessment by observing changes or responses following friendly actions on the (potential) adversary or others. The ultimate aim of the INTEL process is to produce relevant information from all sources in a comprehensive, responsive, and timely manner, so that military decision-makers may gain and maintain an information advantage over an adversary. The Info Ops staff will have to closely cooperate with the INTEL community during preparation, planning, execution and assessment of operations. This is especially crucial in terms of coordinating information activities with INTEL operations to prevent interference by one with the other. Further, accurate and timely advice by INTEL to Info Ops is fundamental to the success of the Info Ops function. Successful military information activities must be founded on effective INTEL support. Attributes of effective INTEL include timely, accurate, and relevant information about adversaries, other approved parties, and the operational environment. The Info Ops staff should work closely with the INTEL staff to define those INTEL requirements necessary to plan, execute and assess the effectiveness of military information activities.
- c. Command & Control Support. The C2 Support function includes information management, processing and transfer as well as information security functions. C2 Support contributes to achieving and maintaining Information Superiority and effective C2. This comprises the use of IT to support information transfer, processing, representation, storage, management, as well as locating, directing, identification, navigation and security functions. C2 Support enables a wide range of activities to become effective on own and other's information and/or information systems, and therefore require specific consideration for Info Ops advice and co-ordination.
- d. Knowledge Management. Knowledge Management (KM) is the process of purposeful handling, direction, government or control of the acquisition, validation, production, transfer, and integration of information and explicit knowledge to support comprehensive/holistic situational understanding in a multidimensional scenario/environment. KM deals with the fact that contemporary operational commanders are faced with data and information overload from multiple sources beyond traditional military perspectives. Yet they lack sufficient means to synthesise data and information to provide the key actionable knowledge required for timely and effective operational decision-making. KM leverages state-of-the art knowledge processing, abstraction, inference and retrieval tools and methods to contribute to the provision of actionable knowledge. KM specifies business rules and best practices to encourage a Cross-Domain Collaborative Information Environment (CD-CIE) during multinational

857 operations. KM can be considered as an enabler of the CD-CIE, but on the  
858 other hand will benefit from such a well orchestrated framework –  
859 particularly in terms of mutual knowledge exchange and perceptual co-  
860 ordination between participating parties. KM enables a wide range of  
861 activities – both synchronous and asynchronous – to become effective on  
862 information and/or information systems, and therefore require specific  
863 consideration for Info Ops co-ordination.

864 e. Multinational Information Sharing. Unity of effort is essential to achieve  
865 consistency of word and action in multinational operations. This is  
866 achieved as much by co-ordination and consensus-building as it is by  
867 unity of command. Unity of effort has broad implications on planning and  
868 decision-making processes, and the execution of operations. Information  
869 is the source of knowledge; the ability to manipulate information and  
870 knowledge confers power. Information sharing or collaboration is the  
871 cornerstone in building a relationship of trust and confidence between  
872 partner nations and commanders. The sharing of information in a  
873 multinational body to create a multinational Knowledge Base is enabled by  
874 Multinational Information Sharing (MNIS). This is of particular relevance for  
875 INTEL. Effective MNIS is a prerequisite for mission accomplishment and  
876 supports all aspects of multinational operations, including Info Ops.  
877 Arrangements and techniques for MNIS should be established and  
878 practiced in peacetime in order to be effective in crisis, enhance Alliance  
879 cohesion, and facilitate a coalition building process.

880 f. Interagency Co-ordination. Interagency co-ordination at all levels is  
881 critical for the success of operations since it builds the link between the  
882 different instruments and elements of national power. Concepts emerge to  
883 outline structures and procedures for interagency co-ordination at the  
884 operational level. They inter alia aim at facilitating information sharing  
885 throughout the multinational interagency community and bringing cross-  
886 government expertise, perspective and understanding to the planning,  
887 execution/management and assessment/evaluation processes. Civil  
888 experts involved in interagency co-ordination as Subject Matter Experts  
889 (SMEs) may belong to governmental organisations and agencies  
890 operating worldwide or regionally/locally. They can contribute their  
891 knowledge, views and perceptions to Systems Analysis within the  
892 Knowledge Development (KD)<sup>38</sup> process and support liaison to civil actors  
893 during the conduct of operations. As Info Ops will orchestrate military  
894 information activities in conjunction with other activities to form a  
895 synergistic entity, Info Ops participation in interagency co-ordination at all  
896 levels and throughout planning, execution/management and assessment/  
897 evaluation is essential.

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<sup>38</sup> See Chapter 3, Section II: 'Info Ops in the Effects-Based Operations Process – Knowledge Development'.

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## Chapter 2 – Info Ops Advice and Co-ordination Process and Staff Requirements

### Section I – Info Ops Generic Process Model

201. The purpose of the generic process model for Info Ops is to provide a comprehensive overview of the role of the Info Ops function in general staff activities at the (military) operational level required for analysis, planning, execution and assessment of operations. It describes the Info Ops contributions to military processes at the operational level of command, interfaces to higher and lower levels as well as to civil processes and products, relationships within the decision and execution cycle, and assumptions on the integration of military information activities within a comprehensive approach.
202. The generic Info Ops process model is primarily intended to explain the essentials of the Info Ops function to military practitioners – commanders and their staffs – and enable them to better understand the added value of this emerging concept and initial ideas for its implementation. Furthermore, this model should also inform other government departments and civil partners of the military view on information activities in order to facilitate the required military and civil interaction within a comprehensive approach.

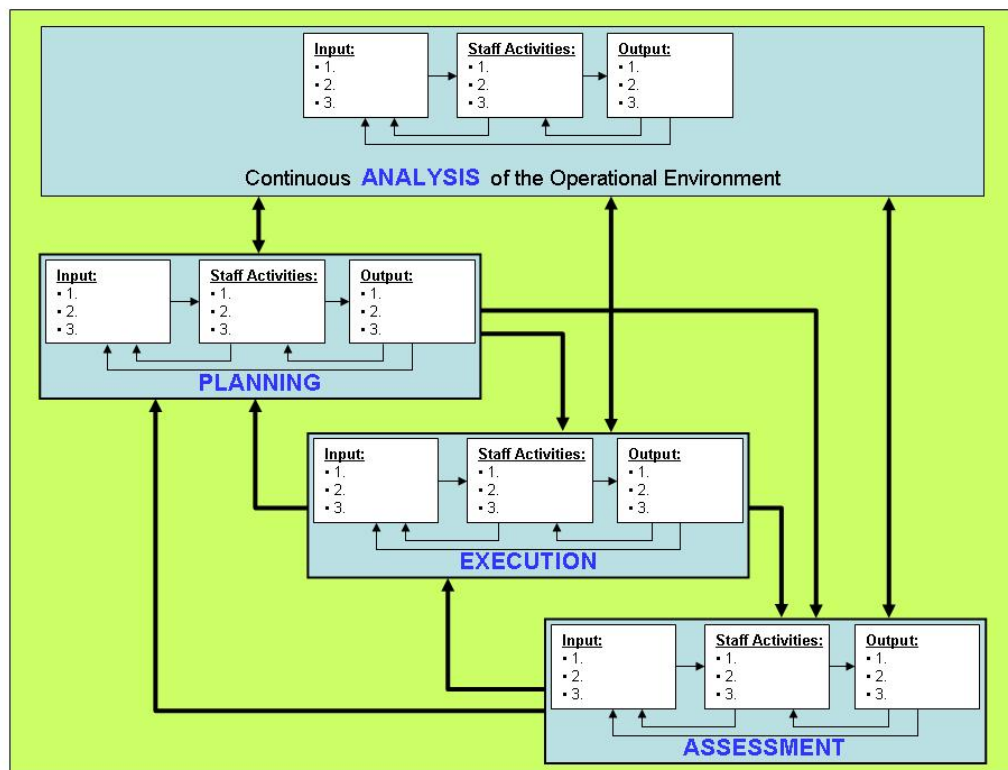


Figure 2: Generic Military Operational Level Processes

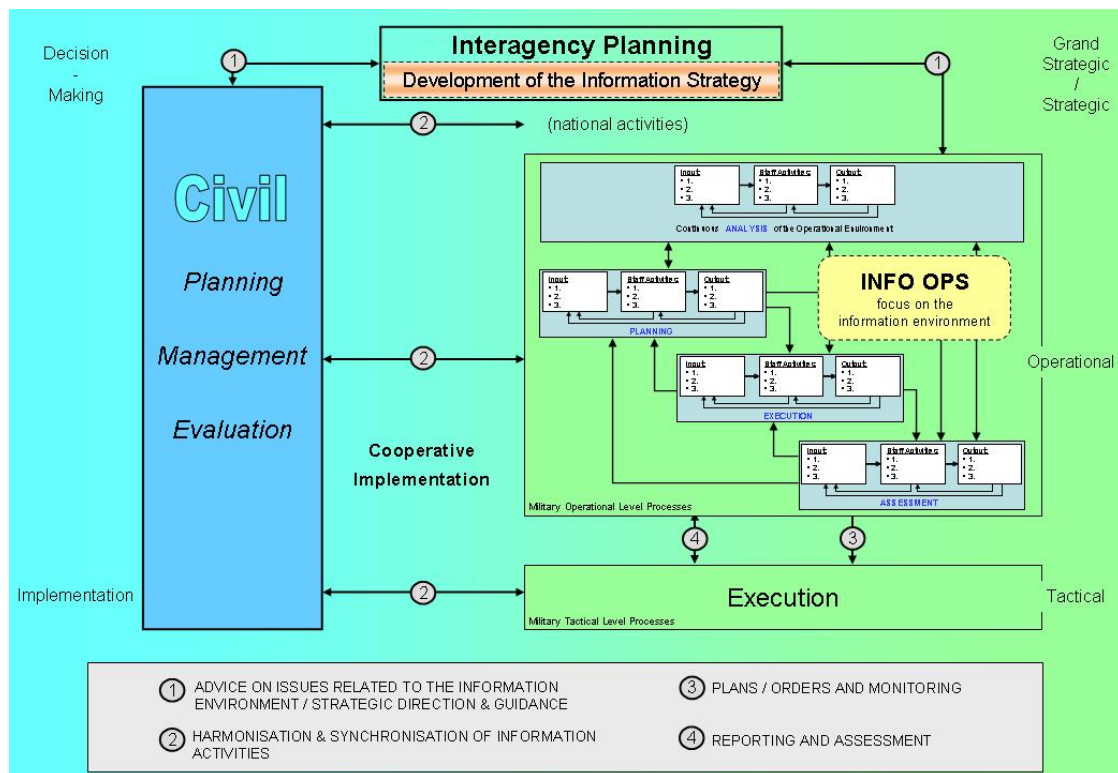
203. A generic Info Ops process model should be applicable to the whole scope of military activities within a comprehensive approach. As the Info Ops function constitutes an integral part of military analysis, planning, execution and

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assessment, a generic process model for Info Ops should also refer to generic military processes and their related civil interfaces without considering extant concepts such as the NATO Operational Planning Process (OPP) or other specific models used in current CD&E.

204. The mutually complementing processes of analysis, planning, execution and assessment are interconnected by feedback loops, and proceed iteratively and in parallel. Each process is characterised by input and output relations, specific staff activities, and performing actors in their specific roles. Altogether these features frame a generic model for military operational level processes (see Figure 3).
205. The generic Info Ops process model encompasses the contributions of the Info Ops function to the four identified generic processes at the military operational level as well as the interfaces to higher and lower levels, and to related civil processes.



**Figure 3: Model of the Info Ops Function and Civil-Military Interfaces**

206. Info Ops contribution to military analysis should concentrate on the provision of guidance to the analysis and evaluation of the information environment, and the development of an estimate of the state of the information environment, including assumptions on future developments. Info Ops will promote enhanced situational awareness and understanding regarding the information environment.
207. Info Ops contribution to military planning should concentrate on a continuous dialogue between the Info Ops staff and joint planners on the analysis and assessment of the information environment. This will facilitate the integration of the information factor (relevant aspects of the information environment and

possible information activities) into plans and the co-ordination of relevant functional/ capability experts' contributions. Military Info Ops staff will also provide input to the development of mission-specific strategic and political guidance for military and civil information activities.

208. Info Ops contribution to military execution of operations should concentrate on the co-ordination of functional/capability experts' contributions to the execution/implementation of plans regarding information activities, and the possible effects of military actions in the information environment. This will be based on superior guidance provided for civil and military information activities.

209. Info Ops contribution to military assessment of operations should concentrate on the collaborative evaluation of insights provided by the functional/capability experts and the identification of de-confliction and/or co-operation requirements regarding effects in the information environment. This will also contribute to enhanced situational awareness and understanding – and finally the integration of the information factor in military and civil actions.

## Section II – Info Ops in the Decision and Execution Cycle

210. Military C2 is the process of exercising authority and direction by a commander over assigned and attached forces. It is about focusing the efforts of resources toward the accomplishment of a mission. C2 consists of several functions, to include: establish a common understanding of the commander's intent; determine roles, responsibilities, and relationships; establish rules and constraints; monitor and assess the situation and progress.<sup>39</sup>

211. The 'OODA Loop' (Observe–Orient–Decide–Act)<sup>40</sup> is a generic and simplified model of the decision and execution cycle continuously applied by commanders and their staff. Each activity is based on input from the previous activity and provides the basis for the next activity. The 'OODA Loop' model basically remains valid throughout the scope of security actions in complex contingencies and emergencies, but its focus changes in the framework of modern information societies. In conventional war speed was crucial to completing the decision-making process – it got you inside your opponent's OODA Loop. We have to use a different approach in today's crisis/conflict prevention and resolution activities: stressing speed above all else does not make sense in interventions that can last a decade or more. Today, we still need to act speedily, but the focus must be more on accuracy (developed in the 'observe-orient segment' of the loop).

212. Decision makers must understand what they see before they decide what to do. To date, network-centric concepts have focused on shortening the 'sensor-to-shooter' step (or: the 'decide-act segment' of the OODA Loop). Now, we must focus on improving the quality of the 'observe-orient segment'. Even more important, the OODA Loop expands to track not just our opponent's reaction, but how the entire operational environment is reacting – our forces, the host nation, Coalition partners, civil actors, and even our own population.<sup>41</sup>

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<sup>39</sup> For further details on C2 functions see: D. Alberts, R. Hayes: Understanding Command and Control (2006).

<sup>40</sup> J. Boyd: An Organic Design for Command and Control – A Discourse on Winning and Losing (1987).

<sup>41</sup> Based on: Thomas X. Hammes: Countering Evolved Insurgent Networks (2006).



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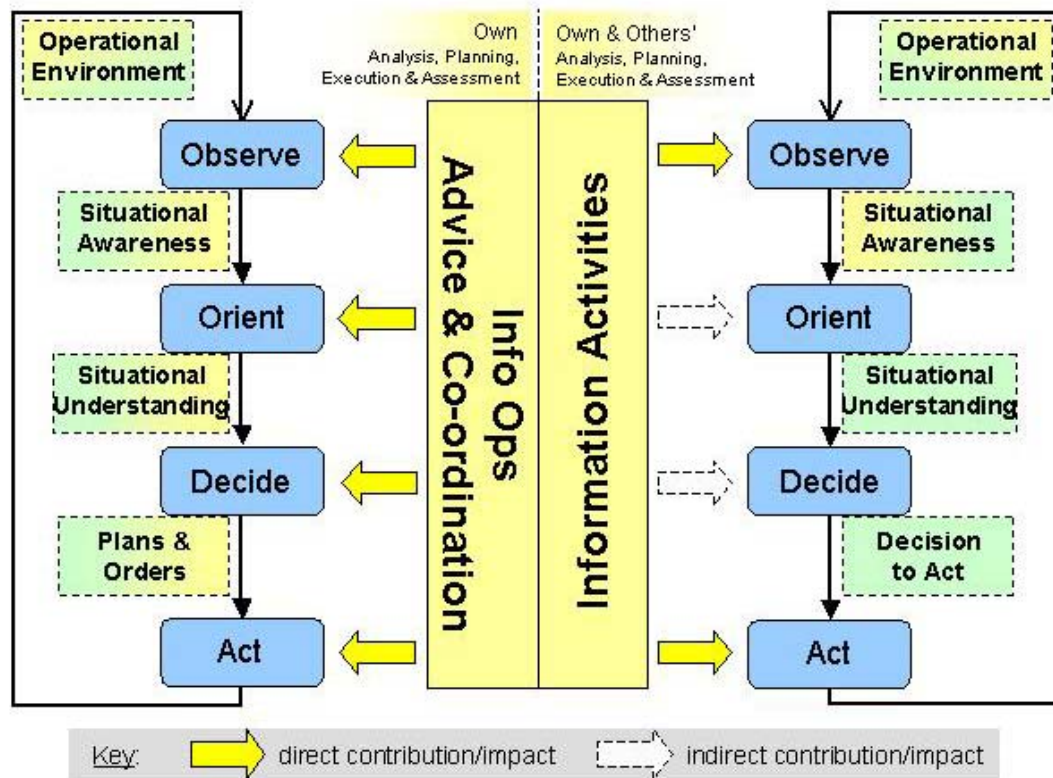


Figure 4: Info Ops in the Decision and Execution Cycle

213. The OODA Loop can be used to illustrate the importance of the information factor for effective decision-making and C2. This model can also facilitate the identification of generic leverage points for information activities (see Figure 4 above).
214. During the 'Observation' activity, Info Ops contribute to the identification of essential information requirements and advise on the information environment, in order to improve situational awareness. The impact of own information activities on other actors' Observation activity is primarily directed at their information systems to affect their capability to collect, process, and disseminate information, and the information itself.
215. During the 'Orientation' activity, Info Ops contribute to the development of shared situational understanding by providing specific expertise and analytical skills related to the information environment, its system dynamics and inherent cause-and-effect relationships. This contribution includes advice to staff activities as well as the co-ordination of respective functional experts' input. The direct impact of own information activities on other actors' Orientation activity is relatively limited; it mainly occurs indirectly during the Observation activity by affecting the ability of an actor to collect, process, and disseminate information or by manipulating the respective information itself.
216. During the 'Decision' activity, Info Ops contribute to the preparation of plans and orders by advising the commander and staff on issues related to the information environment, by coordinating functional experts' input to the design of



integrated military information activities, and by participating in the interagency co-ordination process. This results in plans and orders that detail the commander's will to act, and which appropriately consider aspects of the information environment relevant for the achievement of mission objectives. As described above for the Orientation phase, the direct impact of own information activities on other actors' Decision activity is limited and in most cases occurs indirectly through affecting others' information collection, processing and dissemination capability.

217. During the 'Action' activity, Info Ops contribute to the implementation of plans and orders focused on integrated information activities. This requires the continuous assessment of the situation regarding the information environment, and the development of recommendations for the adjustment of plans and orders, including effects, actions and resources. The impact of own information activities on the actions of other actors is primarily directed at their capabilities – ways and means – to implement decisions.

### **Section III – Roles of Info Ops at the Strategic, Operational and Tactical Levels**

218. Operations are directed, planned and conducted at three levels of command: political direction and guidance are obtained via the strategic commander, while planning and execution are largely achieved at the operational and tactical levels. The distinction between activities conducted by forces at the different levels is clear, but the effects of political, strategic, operational and tactical levels of joint operations will seldom remain only at one level. This requires special consideration for Info Ops, where interconnected information systems and the psychology of decision-making mean that action at the tactical level can have strategic implication and *vice versa*.

219. Strategic Level. Strategy is the planning, coordination, and general direction of military operations to meet overall political and military objectives. At this level, armed forces are used within an overarching political framework and in a synchronised fashion with other instruments of power/civil areas of activity. Info Ops staff at this level should:

- a. recognise any political or legal limitations on the conduct of military information activities, with particular regard to international law, custom and practice, host nation agreements/arrangements, support by other nations or other sensitivities;
- b. contribute to military strategic assessment and advise on the information factor in all military-strategic planning and conduct of operations;
- c. contribute military advice to the development and implementation of an Information Strategy;
- d. consider the impact of approved Rules of Engagement (ROE) on the application of information activities;
- e. contribute to the force generation process by considering available resources for the planning of information activities;

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f. regularly update and inform the strategic commander on the focus and progress of the overall Information Objectives, which will contribute to the review of the Information Strategy;

g. ensure co-ordination of strategic level targeting to include information activities. This applies especially to sensitive targeting such as against computer networks and IT, population groups or individuals.

220. Strategic guidance will usually include available political guidance, strategic goals, directives and limitations. Overall Info Ops strategic guidance will be derived from the Information Strategy and outlined in the strategic plan or directive. It is the responsibility of the strategic level Info Ops staff to ensure that military co-ordination with the higher-level political and media aspects of the operation takes place regularly. This feedback loop is crucial in order to ensure that the targeted information activities at the strategic and operational levels are synchronised with other activities.

221. After the initial co-ordination process has been established and strategic planning guidance has been issued, the strategic level Info Ops staff will contribute to further refinement of plans and directives, taking into account issues from multinational and joint operational planning. Given the scope of the tasks described above and the potential sensitivity of information activities, every consideration should be given to ensure that the strategic level Info Ops staff is established on a full-time basis. This will require sufficient manpower to cope with the demands from the operational level as well as the requirements of the higher political and military bodies.

222. Operational Level. The level at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theatres or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. The operational-level Info Ops staff should assist in:

a. the analysis of the information environment conducted by the INTEL / Knowledge Development (KD) and functional/capability staffs by providing focused guidance;

b. planning and campaign synchronisation by cross-functional co-ordination of efforts related to effects and activities in the information environment;

c. identifying and prioritising the operational level effects in the information environment necessary to achieve campaign objectives (campaign assessment and synchronisation);

d. coordinating effects (and activities) in the information environment (including contribution to the targeting process);

e. providing guidance for allocating forces and resources as necessary for subordinate commanders to execute their tasks (the operational commander will maintain the capability to change the emphasis of information activities at the operational level for the joint campaign to react to developments);

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- f. supporting the co-ordination of military information activities with other agencies in theatre, as appropriate;
- g. providing military advice on effects in the information environment to the strategic commander and contributing to the assessment of the information environment;
- h. providing guidance to tactical commanders to enable them to create the desired effects depicted in the operational plan.

223. Tactical Level. The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and manoeuvre of combat elements in relation to each other and to the opponent to achieve combat objectives. The tactical-level Info Ops staff should:

- a. assist in conducting a mission analysis based on the commander's intent and relevant plans to integrate information activities in tactical plans;
- b. provide advice on planning and implementing activities to create effects in the information environment, including the appropriate assignment of resources;
- c. assist in coordinating the conduct of information activities focused on creating an effect on key local decision-makers and groups by affecting their will, decision-making processes and capabilities;
- d. provide advice on (possible) effects of other actions in the information environment;
- e. provide advice on protecting own information and information systems.

### Section IV – Info Ops Staff Activities

224. The Info Ops staff of a military headquarters is responsible for implementing the Info Ops function through the following major staff activities:

- a. evaluation and interpretation of results from Systems Analysis concerning the information environment;
- b. advice to planning and execution of operations regarding effects in the information environment;
- c. development of Info Ops contributions to planning and assessment from a generalist's perspective;
- d. co-ordination of contributions by military capabilities to planning, execution and assessment regarding effects in the information environment.

225. These staff activities include in particular:

- a. Evaluation and interpretation of results from Systems Analysis concerning the information environment.
  - (1) Establishment, development and utilisation of information relationships (SME network).
  - (2) Assessment of the Situation:
    - (a) description of the operational environment related to information and information systems (considering global/ strategic aspects);

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- 1163 (b) mission analysis/analysis of (strategic) guidance for creating  
1164 effects in the information environment;
- 1165 (c) analysis of limitations (assumptions, constraints and restraints) for  
1166 information activities;
- 1167 (d) identification of own capabilities for creating effects in the  
1168 information environment;
- 1169 (e) identification of others' capabilities for creating effects in the  
1170 information environment, considering allied, friendly, neutral and  
1171 (potentially) adversary actors.
- 1172 (3) Estimate of the situation:
- 1173 (a) comparison of the actual and aspired situation in the information  
1174 environment (variance analysis related to the situation and  
1175 mission);
- 1176 (b) identification and evaluation of possible trends (developments,  
1177 evolutions) in the information environment;
- 1178 (c) Identification and evaluation of possible and desired effects in the  
1179 information environment that can be created by military means;
- 1180 (d) Identification and evaluation of the vulnerability of own information  
1181 and information systems and respective protection requirements;
- 1182 (e) Development of the Info Ops Estimate (see Annex 3A).
- 1183 (4) Development of contributions to situation update and decision  
1184 briefings.
- 1185 (5) Development of contributions to the enhancement of situational  
1186 awareness and understanding, and the development of the CROP.
- 1187 (6) Formulation of (additional) information needs, KRs, and requirements  
1188 for Systems Analysis.
- 1189 b. Advice to planning and execution of operations regarding effects in the  
1190 information environment.
- 1191 (1) Briefing the commander and staff on the situation, possible effects and  
1192 developments in the information environment.
- 1193 (2) Identification of possible trade-offs regarding effects in the information  
1194 environment.
- 1195 (3) Monitoring of the conduct of information activities and variance  
1196 analysis concerning planned/desired and actual effects.
- 1197 (4) Identification of coordination requirements for military and civil actors  
1198 conducting information activities.
- 1199 (5) Identification of collaborative opportunities for military and civil actors  
1200 conducting information activities (description of possible synergetic  
1201 effects).
- 1202 (6) Participation in various staff activities related to:
- 1203 (a) EBP (including targeting) and exercise planning;
- 1204 (b) EBE (including targeting) and exercises.

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- 1205 (7) Proposal of training programs to promote integration of the information  
1206 factor in planning and execution of operations.
- 1207 c. Info Ops contributions to planning and assessment from a generalist's  
1208 perspective.
- 1209 (1) Formulation of effects in the information environment, including MOE.
- 1210 (2) Development of Info Ops contributions to general planning products,  
1211 including contributions to the development and implementation of an  
1212 Information Strategy at appropriate levels of command.
- 1213 (3) Proposal of activities for key leaders engagement (command group  
1214 and special staff), and designing the KLEP.
- 1215 (4) Development and proposal of common assessment criteria for  
1216 information activities.
- 1217 (5) Identification of differences and commonalities in the assessments of  
1218 military capabilities regarding information activities.
- 1219 (6) Analysis of indications and reports, and formulation of Info Ops  
1220 contributions to EBA.
- 1221 (7) Formulation of Info Ops contributions to the reporting system.
- 1222 d. Coordination of contributions by military capabilities to planning, execution  
1223 and assessment regarding effects in the information environment.
- 1224 (1) Harmonisation and synchronisation of proposed information activities,  
1225 including proposals for the KLEP.
- 1226 (2) Harmonisation and consolidation of individual assessments of military  
1227 and civil information activities.
- 1228 (3) Harmonisation of individual contributions to the development of the  
1229 CROP concerning the information environment.
- 1230 (4) Participation in various staff activities related to:
- 1231 (a) EBP (including targeting) and exercise planning;
- 1232 (b) EBE (including targeting) and exercises;
- 1233 (c) EBA;
- 1234 (d) evaluation of exercises and operations (lessons learned).

## 1235 Section V – HQ Internal Co-ordination and Staff Requirements

- 1236 226. General. The commander provides direction and guidance to the HQ on Info  
1237 Ops development and implementation. He also provides advice on Info Ops to  
1238 the higher levels of command, including assessment of information activities as  
1239 part of the campaign and for implementation of the Information Strategy. The  
1240 commander is a key Info Ops contributor in his own right, given his ability to  
1241 influence local events through presence and dialogue, and he also contributes  
1242 to the wider mission-specific guidance through his direction of all HQ activity.
- 1243 227. Meeting the commanders' objectives, requires information activities being fully  
1244 integrated and coordinated with all other military actions. In order to create the  
1245 desired effects, a coherent and synchronised approach among HQs, adjacent  
1246 and subordinate commands, and the strategic-political level must be achieved.

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- 1247 One of the keys to success is thorough co-ordination of information activities  
1248 from the strategic to the tactical level. Commanders should ensure that any  
1249 information activity likely to affect other areas is implemented with prior co-  
1250 ordination and notification.
- 1251 228. Implementation Criteria. Implementing the Info Ops advice and co-ordination  
1252 function requires efficient and effective processes and organisational structures.  
1253 Requirements and constraints are usually given by some general factors such  
1254 as the composition of the coalition, the type of mission, operation, and scenario,  
1255 political and strategic guidance, and the HQ philosophy (e.g. structure,  
1256 organisation, processes, and battle rhythm), and specific factors such as the  
1257 availability of resources, expected workload, and timeframes (e.g. for planning).  
1258 Therefore, implementation of the Info Ops function in multinational operations  
1259 should not be pre-defined, but adaptable, based on generic implementation  
1260 options tailored to best address the requirements and constraints given.
- 1261 229. Organisational design should consider various aspects in order to provide  
1262 optimal conditions for the performance of the advice and co-ordination role of  
1263 the Info Ops function. Such aspects include, but are not limited to:
- 1264 a. the complexity and longevity of the mission;
  - 1265 b. the understanding of 'information' as an operational factor, and related  
1266 opportunities and risks within the staff;
  - 1267 c. systemic understanding of the information environment and respective  
1268 situational awareness and understanding within the HQ;
  - 1269 d. specified Info Ops function responsibilities and accountability;
  - 1270 e. integration of the Info Ops function throughout all processes of the  
1271 operation;
  - 1272 f. the recognition of the Chief Info Ops/Info Ops staff as the primary advisor  
1273 to the commander/HQ on effects in the information environment;
  - 1274 g. the application of Coordinating Authority by the Chief Info Ops;
  - 1275 h. Info Ops awareness of staff activities and related advice and co-ordination  
1276 requirements;
  - 1277 i. the implementation of an Information Strategy;
  - 1278 j. the interactive relationship of Info Ops with other interagency actors at the  
1279 appropriate level of command/involvement;
  - 1280 k. a suitable balance of Info Ops specific and other duties for staff personnel  
1281 in Info Ops functions;
  - 1282 l. the supporting role of Systems Analysis;
  - 1283 m. minimisation of 'stovepipe' working and optimisation of information flow  
1284 within the HQ (suitability for collocated or distributed work);
  - 1285 n. efficient use and flexible allocation of available resources;
  - 1286 o. qualification and training requirements;
  - 1287 p. administrative support requirements.
- 1288 230. Info Ops Staff. The implementation of the Info Ops function should be led by a  
1289 dedicated Info Ops staff in order to promote the full integration of the  
1290 information factor in all military activities. Its primary role is to assist the

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commander in planning, coordinating and directing the implementation of information activities to support the achievement of campaign objectives. The Info Ops staff are generalists, operators and advisors. They are process managers for internal and external co-ordination and provide advice to the commander and his staff on actions and effects related to the information environment. Advice can be formal, such as inputs to plans and orders, or informal, such as discussions or briefings. The Info Ops staff need to have a comprehensive and systemic knowledge of the information environment, and need to basically understand the scope of options available for affecting the information environment.

231. The focus and responsibilities of the Info Ops staff will be determined by the command level and assigned mission. At the operational level, there will be a need for a comprehensive staff to enable planning, operations, INTEL support and specialists to determine targeting and campaign assessment. At the tactical level, the need will focus more on specialists to deliver capability against specified targets.

232. The Chief Info Ops. The Chief Info Ops at each level is the lead adviser on effects in the information environment. He is responsible for the overall direction of Info Ops through the HQ co-ordination and synchronisation process, and chairs the IOCB. The Chief Info Ops ensures prioritisation, de-confliction and unity of purpose for all military information activities undertaken within the command.

233. Linked to the Info Ops function, Coordinating Authority<sup>42</sup> needs to be granted to the Chief Info Ops by formal regulations. It is recommended that the Chief Info Ops should be positioned above functional groups (or J-staff divisions) of an operational level HQ. An appropriate integration of the Chief Info Ops in Command Group meetings and respective reporting procedures is required to accomplish his primary advisory role. In order to act as the appropriate military interface for the harmonisation of military and civil information activities, the Chief Info Ops is required to establish an interactive relationship with respective interagency representatives at the respective level of command. The rank of the Chief Info Ops must facilitate all these responsibilities.

234. Within the HQ, the Chief Info Ops is responsible for:

- a. providing specific Info Ops input to the development of the commander's direction and guidance;
- b. preparing Info Ops contributions to the commander's plans and orders;
- c. assisting in the determination of the desired effects in support of Information Objectives;
- d. assisting in the determination of possible military actions to support the attainment of Information Objectives;

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<sup>42</sup> 'Coordinating Authority' is the assigned responsibility for coordinating specific capabilities, functions or activities involving two or more agencies (organisations or commands). The individual with assigned Coordinating Authority has the authority to require consultation between the agencies involved or their representatives, but does not have the authority to compel agreement. In case of disagreement between the agencies involved, he should attempt to obtain essential agreement by discussion. In the event he is unable to obtain essential agreement he shall refer the matter to the appropriate authority.

- e. recommending priorities for military information activities;
  - f. contributing to the campaign synchronisation and assessment;
  - g. coordinating with all principal functional staff areas, special staff and higher and subordinate HQs;
  - h. coordinating KLE;
  - i. chairing the Info Ops Co-ordination Board (IOCB)<sup>43</sup>.
235. Info Ops Staff Structures. Given the evolving nature of Info Ops and due to command and mission specific requirements, an Info Ops staff can be formed at all levels of command. Comparable command levels should generate similar Info Ops structures within staffs. The actual size of the Info Ops staff, its allocation within the headquarters, as well as the function's organisational design will depend on the specific requirements (mission and situation) of the multinational force.
236. The generic implementation requirements and the respective roles and responsibilities of both the Chief Info Ops and the Info Ops staff as outlined in this chapter could be applied to a variety of HQ structures including traditional J-structured staffs, functional group centric staffs, or other staffs. The Info Ops staff should understand information as an operational factor and be aware of the capabilities available to the commander for creating effects by information activities. They should be integrated in applicable cross-functional teams and participate in appropriate working groups of a HQ to enable a continuous, close dialogue with all relevant staff elements and support the processes throughout. It must be clearly understood that these Info Ops generalists will not replace capability experts or special staff. Info Ops will involve functional experts to collectively identify and exploit the full spectrum of options and appropriately assess situations and issues related to the information environment.
237. Representation of Info Ops in all relevant HQ functional groups (or J-staff divisions, respectively) enables the Info Ops staff to monitor and to be aware of all relevant HQ activities, identify advice and co-ordination requirements, and provide advice and input. However, detailed procedures to integrate the members of the Info Ops Staff in cross-functional groups must be in place. In order to ensure such representation a cross-functional matrix-organised structure of the Info Ops function may be implemented as a suitable option. However, such a matrix organisation must be based on formal matrix agreements approved by the appropriate authorities.
238. In principle, different options for the assignment of Info Ops staff personnel (besides the Chief Info Ops) are conceivable. The selected option must allow for the application of Coordinating Authority and priority tasking of the Info Ops staff by the Chief Info Ops. Examples for the organisation of the Info Ops staff – based on a traditional J-staff organisation – include (see Figure 5):
- a. Chief Info Ops as member of the HQ's special staff with decentralised Info Ops personnel in J-divisions, probably J2, J3 and J5. This would ensure that Info Ops was fully considered at the highest, decision-making level with close relationships to the command group. Possible disadvantages

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<sup>43</sup> See Paragraphs 232-234 and Annex 2A.

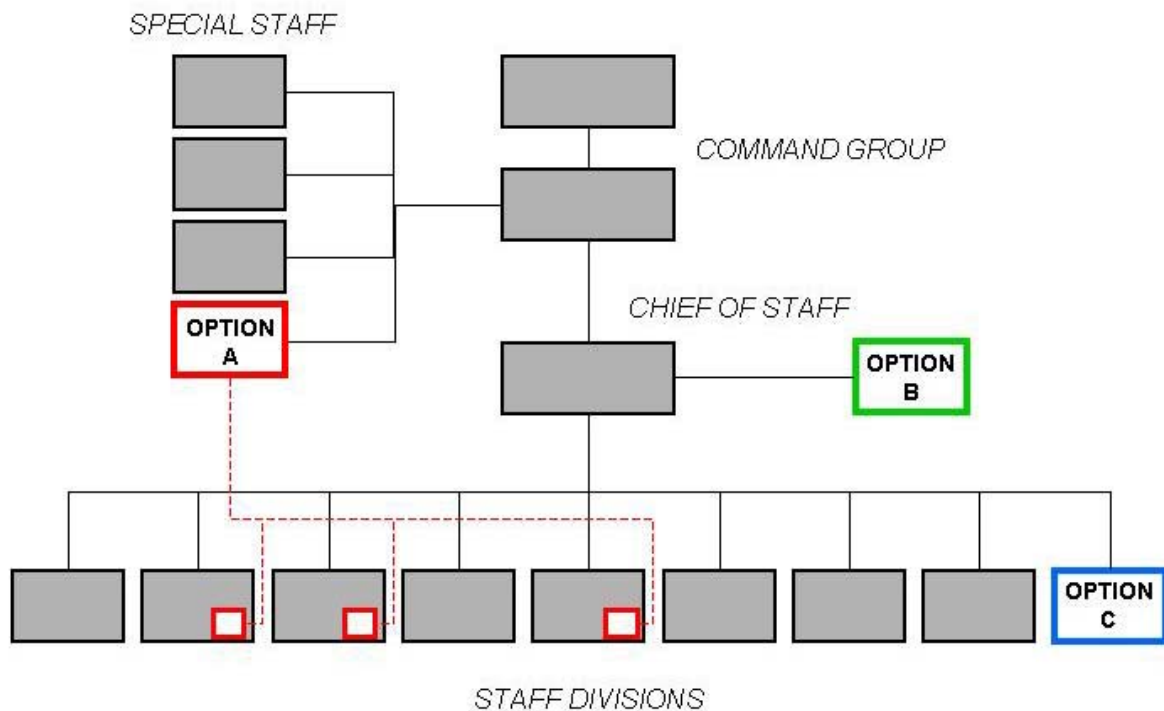


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could result from a reduced involvement of the Chief Info Ops in day-to-day J-staff activities, and from administrative problems inherent in the matrix-type organisation of the Info Ops staff.

- b. A centralised Info Ops staff brigaded at Chief of Staff (COS) level under a Chief Info Ops. This would ensure that Info Ops was fully considered at the highest, cross-functional level in planning, execution and assessment of an operation. Possible disadvantages could include a lack of liaison and understanding of the more detailed aspects of the operation, particularly in the J3 and J5 areas.
- c. Centralised Info Ops staff at Assistant Chief of Staff (ACOS) level under a Chief Info Ops would ensure a greater level of liaison with specialist staffs within the respective J-division whilst retaining a significant level of senior influence within the HQ, albeit a considerably reduced level compared to the COS construct.



**Figure 5: Info Ops Staff in a Generic HQ Staff Structure (Examples)**

239. The Information Operations Co-ordination Board. The Info Ops process is put into effect through the existing HQs co-ordination processes and via an IOCB, which prepares inputs to relevant HQ internal and external processes including the joint targeting processes, the INTEL process and the joint co-ordination process. A wide range of staff functions play a role in the Info Ops process, as outlined in Annex 2A. Functional area participation in the IOCB is essential in order that their input and subject matter expertise can be applied to the Info Ops co-ordination process. Of particular importance is the need for all activity to be consistent with the Information Strategy.

240. The purpose of the IOCB is to develop and maintain a common situational understanding of the information environment among all actors involved, and to coordinate the collective approach to achieving Information Objectives. IOCB meetings complement the bilateral efforts of the Info Ops staff to provide advice and assist co-ordination.
241. The IOCB is integrated into the HQ's battle rhythm and meets regularly within the HQ, attended by relevant staff and Liaison Officers (LOs) from subordinate or superior commands, as required, to plan, coordinate and synchronise military activities affecting the information environment. In this capacity, the IOCB may also function as a think-tank for the commander.

## Section VI – External Coordination

242. General. To realise desired effects in support of the Information Strategy, close co-ordination of campaign and supporting plans, among strategic, operational and tactical HQs is vital. This co-ordination up and down the command levels takes the form of formal plans, direction, guidance, doctrine, policy and training. Co-ordination is also required with international and regional political and civil organisations through agreed procedures and structures.
243. Component Commanders/Tactical Level Commanders. It is important that activity conducted by component commanders and commanders at lower tactical levels are synchronised with activity at higher levels. In addition, commanders at these levels will often be required to conduct activity to support higher level objectives. To ensure synchronisation, proposed information activities may need to be forwarded to superior HQ's Info Ops cells for de-confliction with other ongoing activities. LOs will normally be required during crisis or deployed operations. All LOs must maintain close contact with their command Info Ops staff to ensure they are fully aware of changes and/or requirements to be discussed at the IOCB.
244. Inter-Command Level Co-ordination. Any viable assessment of information activities requires an inter-command effort as intended and unintended effects can be felt across informational, physical and psychological boundaries. Given the potentially wide-ranging effect of military information activities, a coordinated approach is necessary across all command levels and political institutions. Thus a system of co-ordination and liaison processes between commands and supporting agencies (GOs, IOs, NGOs, etc.) that allows staffs to communicate with, send reports to, and receive guidance from, superior and subordinate commands is required.

## Annex 2A – The Information Operations Co-ordination Board

2A1. General. The IOCB is the forum for the implementation of Info Ops collective co-ordination and advice, chaired by the Chief Info Ops. It will convene as necessary in the HQ decision cycle and as required during non-operational activities.

2A2. Membership. The IOCB should involve expertise from all staff elements, determined by mission and situation requirements. A possible composition of the IOCB is shown in Figure 6. This composition is not fixed and the Chief Info Ops will invite other parties, which may include other agencies and departments, as required, to contribute to the mission and the role of Info Ops in accomplishing the commander's objectives. IOCB member responsibilities are outlined at paragraph 2A6.

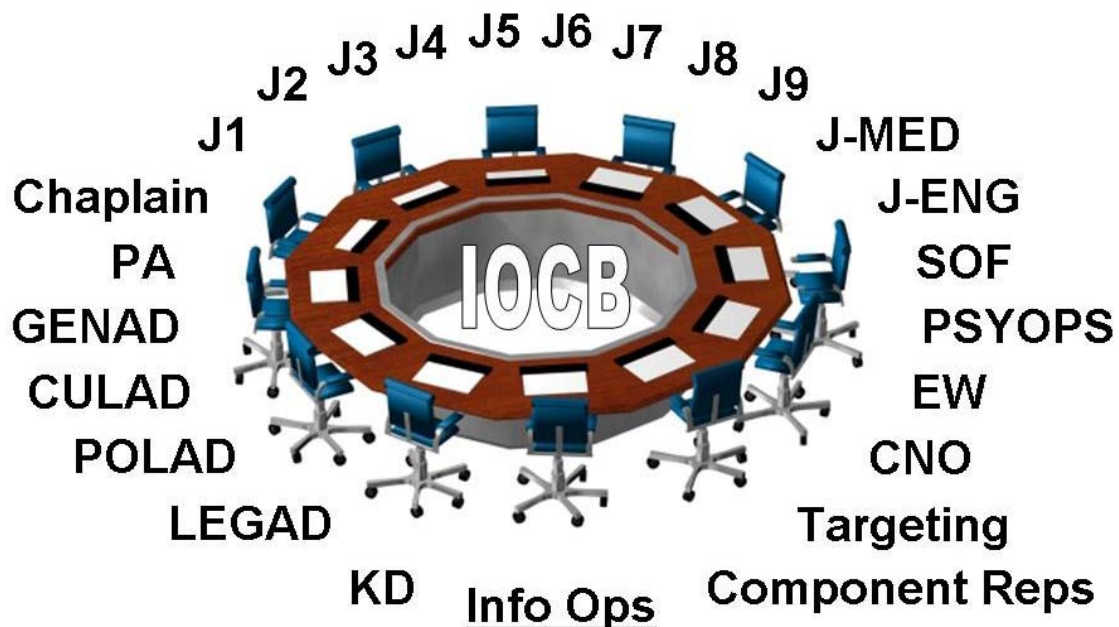


Figure 6: Possible Composition of the IOCB (Example: Operational Level HQ)

2A3. Role. The role of the IOCB is to ensure that military information activities are coherent and synchronised with other actions (potentially) affecting the information environment. The IOCB provides the forum for collective co-ordination of information activities. Within the scope of its assigned functions, the IOCB will provide initial co-ordination of target nominations related to information and information systems to facilitate subsequent harmonisation. It will also provide advice on possible effects in the information environment created by other military actions. The responsible capability representatives, functional advisors or Component LOs will present results from IOCB discussions to the respective targeting boards, where the Info Ops representative will monitor the selection, harmonisation, nomination and prioritisation process, and advise on over-arching, cross-functional issues, as

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required. The IOCB further provides a forum for co-ordination, de-confliction and monitoring of Info Ops related plans and activities.

2A4. Responsibilities of the IOCB. The responsibilities of the IOCB are:

- a. co-ordination, revision and assessment of the plans and information activities based on approved Information Objectives;
- b. provision of Info Ops guidance based on commander's guidance and direction;
- c. consideration of activities affecting the information environment;
- d. identification of necessary and available resources and requirements;
- e. recommendations for tasking, co-ordination and staff action;
- f. review of Info Ops inputs to the main body and annexes to various plans;
- g. development of target nominations;
- h. recommendation for approval of the Info Ops annex to plans;
- i. co-ordination with outside agencies in consultation with other staff areas, as required.

2A5. General Responsibility of Representatives. Representatives on the IOCB must have the authority to speak for and make decisions on behalf of their command functional area. Representatives provide information on their future intentions and advise on the employment of their assets. Through the IOCB, activities are de-conflicted and intentions amended to ensure coherence before submitting inputs to the planning and targeting processes and, ultimately, the commander for approval. Representatives from the subordinate or component commands, usually Info Ops officers, will provide expertise and act as liaison for Info Ops matters between the higher and subordinate commands.

2A6. Contribution of Specialist Staff to the IOCB. To maximise the effectiveness of Info Ops, an integrated approach to operations that considers desired effects on the will, capability and understanding of adversaries and other approved parties must be considered. This requires a coordinated approach to Info Ops across the staff, led by the command group, to achieve a common understanding of the nature of the Info Ops function. Specific responsibilities for roles, functional areas and other staffs include:

- a. Political Adviser. The POLAD advises on policy implications of proposed information activities and when required, coordinates the political aspects of information activities with higher HQ counterparts. The POLAD guides public diplomacy activities in accordance with the Information Strategy.
- b. Legal Adviser. The Legal Adviser (LEGAD) advises on legal implications, including ROE, of proposed information activities.
- c. Cultural Adviser. The Cultural Adviser (CULAD) advises on cultural implications of proposed information activities, including ethnological, religious and social aspects. He also contributes to the assessment of information activities from the cultural perspective.
- d. Gender Adviser. The Gender Adviser (GENAD) advises on general gender issues that may affect information activities. In particular, the GENAD can provide advice regarding gender equality and women empowerment, based on a high degree of cultural sensitivity. Depending

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- 1508 on the scenario requirements the CULAD may cover the function of the  
1509 GENAD.
- 1510 e. Systems Analyst. Using scientific methods, the Systems Analyst<sup>44</sup>  
1511 provides significant input to all operational and campaign analyses and  
1512 assessments in relation to the information environment. He is closely  
1513 associated with Info Ops, advising on and analysing measures of success,  
1514 and informing campaign assessments. His advice and output will be  
1515 applied throughout the iterative planning, execution and review cycle.
- 1516 f. Chief Public Affairs Officer. The CPAO is responsible to the commander  
1517 for all media relations, internal communication and community relations  
1518 plans and activity. He participates in the Info Ops co-ordination process to  
1519 ensure that PA activities and other military information activities are  
1520 mutually consistent.
- 1521 g. Chaplain. The Chaplain is responsible for the spiritual ministry and  
1522 pastoral support to soldiers and their families in a range of challenging  
1523 environments. He may contribute religious and cultural assessments to the  
1524 Info Ops function.
- 1525 h. Manpower Management Representative (J1). J1 participates when  
1526 personnel and troop information matters are relevant to the conduct of  
1527 information activities. J1 identifies personnel requirements and shortfalls,  
1528 and provides advice on troop information programs.
- 1529 i. Intelligence Representative (J2). J2 coordinates INTEL collection  
1530 requirements and provides analytical support for Info Ops in close co-  
1531 ordination with the KD support staff. INTEL will provide the initial Systems  
1532 Analysis, to include a description of the political/military decision-making  
1533 process and decision-makers, nodal analysis, human/cultural factors and  
1534 an analysis of other entities' capabilities to affect the information  
1535 environment. J2 assists in the assessment of activities and the resulting  
1536 effects and advises on the capability of all-source INTEL support to Info  
1537 Ops to include targeting.
- 1538 j. Operations Management Representative (J3). J3 advises on the  
1539 integration of effects and activities in the information environment into the  
1540 HQ's deliberate short and mid-term planning process as well as on the  
1541 integration of information activities in the context of current operations.
- 1542 k. Logistics Representative (J4). J4 considers the effects of information  
1543 activity on logistics and support, including any related capability  
1544 requirements.
- 1545 l. Plans & Policy Representative (J5). J5 integrates Info Ops planning into  
1546 the long-term planning process (advance and crisis response planning).
- 1547 m. Communications and Information Systems / Command & Control Support  
1548 Representative (J6). J6 identifies Communications and Information  
1549 Systems (CIS) vulnerabilities and develops procedures and capabilities to  
1550 protect friendly battle management and Consultation, Command, Control,  
1551 Communications and Information (C4I) systems. J6 develops INFOSEC

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<sup>44</sup> From the KD support staff or embedded in the INTEL (J2) staff.

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1552 plans and supports the development of OPSEC plans. J6 also assesses  
1553 the impact of adversary information activities on own systems.

1554 n. Training and Exercises Representative (J7). J7 contributes lessons  
1555 learned and mission rehearsal aspects to Info Ops.

1556 o. Financial Management Representative (J8). J8 advises on budgetary  
1557 issues of projects having an impact on the information environment.

1558 p. Civil-Military Co-operation Representative (J9). J9 advises on CIMIC  
1559 capabilities and assessments that support Information Objectives.

1560 q. Psychological Operations Representative. The PSYOPS representative  
1561 advises on PSYOPS capabilities and assessments that support  
1562 Information Objectives.

1563 r. Special Operations Forces Representative. The SOF representative  
1564 provides advice on SOF capabilities and force utilisation in support of  
1565 information activities.

1566 s. Liaison Officers. LOs provide critical linkages between their parent  
1567 organisation and the supported HQ, ensuring the activities of both are  
1568 mutually supportive. There needs to be a good understanding by LOs of  
1569 plans and capabilities for information activities of their command. At the  
1570 operational level, Component Commands should not rely on their  
1571 standing, general purpose liaison staff for representation at the IOCB;  
1572 rather should they consider involving flexible expertise appropriate to the  
1573 subject issues to be discussed.

1574 t. Electronic Warfare Officer. The EW Officer provides advice on EW  
1575 support to Information Objectives and feedback on its effectiveness.

1576 u. Targeting Officer. The Targeting Officer ensures integration of Info Ops in  
1577 the targeting process. He also assists in target de-confliction and  
1578 assessment of effects of information activities.

1579 v. Computer Network Operations Officer. The CNO Officer advises on CNO  
1580 capabilities and assessments that support Information Objectives.

1581 w. Chief Engineer (J-ENG). The role of engineers is particularly significant in  
1582 relation to Info Ops because of the particular visibility of engineers'  
1583 achievements and their special capacity of contributing to host nation  
1584 reconstruction. The Chief Engineer advises on capabilities and  
1585 assessments that support Information Objectives.

1586 x. Chief Medical / Theatre Surgeon (J-MED). Medical support and  
1587 assistance may have an enormous psychological impact on local/regional  
1588 audiences. The Chief Medical advises on capabilities and assessments  
1589 that support Information Objectives.

1590

## Chapter 3 – Info Ops in the Effects-Based Operations Process

### Section I – Effects-Based Operations Introduction

301. Effects-based thinking focuses on influencing or changing system behaviour or capabilities using the integrated application of selected instruments of power/areas of activity in order to achieve directed policy aims. Effects-Based Operations (EBO)<sup>45</sup> consist of planned, executed, assessed, and adapted military actions based on a comprehensive and dynamic understanding of the operational environment.
302. Effects-based thinking provides the ability to be more responsive and discriminating by emphasising the desired end state behaviour, i.e., how the situation in the operational environment would appear and evolve, and the specific effects that would lead to this desired end state. The effects-based approach postulates a more comprehensive understanding of a crisis, e.g., its root causes and symptoms, relevant elements and involved parties and actors, and their interrelationships. It will also promote a comprehensive understanding of other parties to the conflict as well. Armed with this knowledge, military commanders are afforded a more flexible and effective means to prosecute activities ranging from co-operation to conflict by focusing on the effects they would need to create in order to achieve a behavioural change in the system of actors.
303. The effects-based approach to operations establishes explicit linkages among system behaviour consistent with own objectives, the necessary effects that would lead to this behaviour, each instrument of power/area of activity required to generate these effects, and the specific tasks (sets of actions) at each level of command. This understanding and these explicit linkages – promulgated to, and understood by leaders at all levels – provide increased flexibility and a greater ability to adapt to rapidly changing situations within the operational environment.
304. Effects-based thinking also provides a powerful backdrop for a greater unity of effort among the various instruments of power/areas of activity. When all instruments understand relevant system behaviour, the various elements that support or enable this behaviour, and the changes which would have to occur within a system to alter this behaviour, they will produce a much broader set of possible effects capable of achieving the desired behavioural change. Interagency co-ordination, participation and liaison must be an organic component in the commander's EBO process.
305. EBO are about ends (effects), ways (actions) and means (resources) – it is the synergy of the three that gets results. An end is a description of what is to be achieved; ways is a description of how an end might be achieved, and means is a description of who might be used. EBO are 'outcome centric'; they focus upon

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<sup>45</sup> The term 'Effects-Based Operations (EBO)' is used throughout the document for the military application of effects-based thinking – or: the effects-based approach (to operations) – at the operational level of command.

the results that might be obtained by the application of military actions in concert with the other areas of activity and the selection of the most expedient and effective way of obtaining these outcomes. The conduct of EBO, therefore, demands first to establish the intended outcome prior to determining/implementing the actions that will likely produce the desired result.

306. Actions undertaken at the political, strategic, operational, and tactical levels can cause effects at any other level. Effects can occur simultaneously on the tactical, operational and strategic levels of military operations, as well as in domestic and international civil arenas. Effects, at each level and in each arena, are interrelated and cumulative over time. Also, effects in this context can be cognitive as well as physical, i.e. changes in attitudes and behaviour of actors, as well as in the functionality of weapon systems or other capabilities.

307. Within an effects-based approach to operations, military information activities will notably contribute to achieve effects on adversary, friendly, neutral, and own system behaviour or capabilities in concert with effects produced by other military and civil means. Effects on own systems will support the protection and enhancement of own capabilities.

308. The delineation between what constitutes information activity and what constitutes mainstream military activity is becoming increasingly blurred as effects-based thinking is pursued. In the future commanders and their staffs will have to consider all means for creating effects from the outset, and they will be as familiar with information as they are with the traditional operational factors force, space and time. The desired end state is the full integration of the factor information – a sufficient awareness of the additional options provided by affecting the information environment.

309. Within EBO, Info Ops will notably contribute to create effects on adversary, friendly, neutral, and own system behaviour or capabilities in concert with other military and civil activities. Info Ops must be fully integrated in order to enable co-ordination and advice on the military contributions to an overarching Information Strategy.

310. The EBO process can be described in terms of four major functions: Knowledge Development (KD); Effects-Based Planning (EBP); Effects-Based Execution (EBE); and Effects-Based Assessment (EBA). The effects-based approach proposes a few key divergences from traditional approaches in each of these areas. Once a campaign is under way the EBO functions will occur both in a sequential and in a parallel manner.

## Section II – Knowledge Development

311. KD is a function that applies Systems Analysis to generate and enable explicit knowledge of the operational environment in order to improve situational awareness and understanding in support of a comprehensive approach in a multinational and interagency context. Systems Analysis is a method which defines a network of elements, their relations and interactions, evolving in space and time and so allows a valid contextual assessment of objectives, sequences of effects and sequences of actions. The result of Systems Analysis is a comprehensive modelling of the operational environment with its system



dynamics and feedback loops. Systems Analysis will provide a description of intended effects and will expose both intended and unintended consequences. Systems Analysis will utilise various existing models, methods, techniques to model and explore the system in its dynamics. Although no single model or method will sufficiently cover all aspects, the application of specific models will facilitate a systemic view on the operational environment. Relevant candidate models may be found in several scientific areas, to include: operations research, cognitive modelling<sup>46</sup>, social, natural and economic sciences, social and technical network analysis, command and control assessment, human behaviour representation, risk assessment, information dissemination, and ethnology<sup>47</sup>.

312. Basic staff activities such as personnel, INTEL, operations/command & control, logistics, plans & policy, communications, training & exercise, budget and finance, CIMIC, and the Special Staff contribute to and receive value from the KD process without interfering with original responsibilities. KD also utilizes linkages between national and multinational partners/agencies, Centres of Excellence (COEs), SMEs, and the HQ staff. It strives to take advantage of relevant information and knowledge from all available (open and classified) sources of expertise.
313. KD contributes to a knowledge base that contains the information necessary for Systems Analysis and other use. The results of Systems Analysis and other assessment are continuously fed back into the knowledge base. It is continuously updated by and accessible for customers (civil and military actors and supporting staff). KD facilitates a widened, comprehensive view on the operational environment. Based on a systemic methodology, the clarity of interrelationships between all relevant actors and issues with regard to power and influence is significantly enhanced. Improved situational awareness and understanding provides a common, improved foundation for further analysis, planning, execution/management and assessment/evaluation of operations/missions, including their related processes and structures among military and civil partners.
314. Systems Analysis provides the Info Ops function with valuable knowledge of the relevant systems in order to make valid assumptions, to take full advantage of their strengths and weaknesses, and to assess the impact of information activities.

### Section III – Effects-Based Planning

315. Overall Planning Considerations. Info Ops is an integral part of military activity at every level of command. It is therefore critical that Info Ops aspects are considered in the planning process from the beginning. Planning of effects and activities in the information environment must directly support the commander's intent, guidance and desired end-state. Info Ops staff should be core members of relevant staff planning sub-groups, and provide inputs to planning for the

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<sup>46</sup> E.g., mental models for decision-making, individual or shared sense-making.

<sup>47</sup> Systems Analysis may be structured according to the PMESII (Political, Military, Economic, Social, Infrastructure, Information) or any other adequate analysis scheme.

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targeting process. An Info Ops estimate will usually be conducted (either as a written product or as a less formal process) to ensure that all potential information activities and their intended effects are properly considered and then fed into the commander's estimate process.

- a. Inclusion. Planning of activities to achieve desired effects in the information environment provides significant input to EBP. There are important links to be established with the planning team looking at the overall commander's campaign. It is imperative that Info Ops is not added on afterwards, but integrated into planning from the beginning while Strategic Objectives and Decisive Conditions are being identified as a central aspect. It is equally important that planning for Info Ops is considered during the IPB process.
- b. Integration. The Info Ops staff need to understand the other aspects of the commander's plan and how they may impact on planned activities in the information environment (and supporting plans) and ensure that Info Ops are integrated into the overall plan, without conflict with other elements and functions. This means that the Info Ops planners must maintain a broad perspective with respect to how other operations can impact on the information environment, taking a protracted amount of time to complete or involving several synchronous operations and activities.
- c. Planning for Sensitive Issues. Certain information activities may be considered sensitive due to the nature of these, the audiences or the targets. This type of planning may have to be conducted within a sub-group of the planning team. Briefing of sensitive plans or those which are classified above the level of the overall operation will have to be conducted separately on the basis of 'need to know' and should be marked with a Limited Distribution (LIMDIS) caveat. Plans should always be considered for sensitivity marking if they address deception, the use of special IT, political sensitivities or if plans involve using SOF.
- d. Phasing. Effects in the information environment to support the overall mission and implementation of the Information Strategy must be considered at the earliest stage possible, and relevant activities have to be required even prior to the deployment of the main force. Similar consideration should be given concerning the support to transition and redeployment, where effects in the information environment need to be continued.

316. Effects-Based Planning. The EBP function supports the development of a plan that matches the end state with the effects needed to achieve the end state, with the causative actions required to create the effects, and the resources needed to execute the actions. EBP also supports the development of an assessment plan which provides the method to assess the progress of the campaign towards achieving the end state.

317. The end state describes the state of the system that is desired at the end of the operation. During planning, development and application of effects statements bridges the gap between end state and actions. Not only is a bridge of reason provided between the two, but a context for civil-military interaction is built, and the basis for continuous assessment of the effectiveness of the operation is

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created. An end state may be decomposed into objectives, which describe the intended end state from the commander's perspective. The wording of objectives and effects is more specific than that of the end state. Effects are then translated into actions that will need to be taken against parts of the system in order to create the desired changes. Many actions may be required to create an effect.

318. EBP emphasizes the consideration of the various effects (physical and/or behavioural states of a system) caused by an action or set of actions that result from application of capabilities associated with specific levers of power. Besides own actions under control of national/Coalition/Alliance power, other actions are undertaken by (potential) adversaries, friends and neutrals, including non-state and non-governmental civil and military actors that affect mission accomplishment. All of these actions cause effects and – more or less – shape the behaviour of those who perceive these actions and/or related effects.
319. The product of EBP is an effects-based plan that provides subordinate commanders with sufficient detail to complete their own planning, as well as with the direction for the conduct of the operation. It is developed throughout the project planning process and *inter alia* contains the plan expressed in a synchronisation matrix that depicts the relationships and dependencies among desired effects, planned actions, and their associated resources as a function of time and space.
320. The Info Ops function facilitates the appropriate consideration of the information factor within the military instrument of power. It coordinates military information activities and integrates those with other military activities throughout the EBP process. Representatives and experts from all relevant capabilities will contribute to the development of effects, actions, and tasks according to their areas of expertise.
321. Based on the Information Strategy Info Ops contribute to EBP by facilitating the exploitation of the full spectrum of available options, and by supporting the co-ordination and de-confliction of information activities in order to form a coherent effort. Info Ops also supports the harmonisation with civil information activities using appropriate procedures and structures for interagency co-ordination.
322. Outputs from Info Ops Contribution to Planning. The functions and processes indicated above will lead to the production of key planning products in support of operational plans and executive papers. The products are applicable for both training and operations. Standard formats should be developed and used as guidance for Info Ops staffs within command standard operating procedures.
  - a. Info Ops Estimate. Info Ops contribute to the staff estimate throughout the operational planning process and conduct of operations. Details are provided in Annex 3A.
  - b. Info Ops Elements of Plans. The strategic plan/directive is required to provide overall guidance to the operational planner. It should, as a minimum, cover details concerning strategic-political intent and any restraints, constraints or limitations placed on planning for information activities. The desired effects, themes and messages generated from the specific Information Objectives distilled from the Information Strategy will be listed in the Info Ops Matrix. Subordinate commanders will use this

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matrix as a basis for their own plans. Info Ops must be developed to support both the Information Strategy and the overall campaign plan; consequently, Info Ops staff must ensure that the two requirements are melded together and potential conflicts of interest highlighted. The Info Ops staff will be responsible for providing the following elements as part of the plan:

- (1) the commander's intent concerning desired effects in the information environment;
- (2) Information Objectives provided by the Information Strategy;
- (3) HQ internal and external coordinating instructions concerning the implementation of the Info Ops function within their own and subordinate commands;
- (4) Info Ops considerations concerning INTEL, targeting and assessment of effects in the information environment.
- (5) Co-ordination and support to the primary contributors of information activities will be included as cross-references to the appropriate functional annexes. These cross-references are not fixed but will be situation and mission-dependent.

An outline Info Ops Annex to plans is at Annex 3B.

- c. Info Ops Contribution to Tasking. Within development of orders, Info Ops contributes aspects concerning the information environment that affect the conduct of information activities and require additional co-ordination effort. This contribution focuses on the identification of opportunities for the achievement of synergetic effects, and on the de-confliction of efforts (e.g., concerning the use of resources). The Info Ops staff will not issue any separate orders.
- d. Info Ops Contribution to Targeting. Info Ops assist in the targeting process by identifying where (information) activities could be applied to achieve specific effects in support of the commander's mission objectives. During planning and continuously as part of implementation, target nominations are required in order to implement information activities and other actions affecting the information environment. These targets will be coordinated through the Info Ops process (e.g., using the IOCB) and can include a diverse array of subjects, including decision-making systems, information systems and other linked activities. The cyclic target development process during planning must include Info Ops input from the strategic to tactical levels and vice versa.
- e. Force and Capability Co-ordination. To ensure that relevant capabilities and appropriate staff manning are inserted in good time into the force requirements, a clear analysis must be carried out to determine broadly what activities are needed to support the campaign. This is a continuous process and requires regular review.
- f. Campaign Plan Review. Throughout the planning process, the Info Ops staff will continue to conduct assessment of the information environment, and contribute to the refinement/adjustment of estimates and plans. This

1858 will require constant synchronisation of the planning of information  
1859 activities with feedback to the Information Strategy.

## 1860 Section IV – Effects-Based Execution

1861 323. The EBE function monitors actions taken to create specific effects. Following  
1862 the issuance of the orders derived from the EBPLAN, execution of EBO is  
1863 dynamic and adaptive, which provides two subtle but vital differences compared  
1864 to traditional execution: first, military and civilian actions are conducted  
1865 complementary whenever possible; secondly, in combination with continuous  
1866 assessment, opportunities are created to make adjustments to the plan in a less  
1867 disruptive manner, making even fundamental changes potentially less costly in  
1868 terms of momentum, resources, and even political will.

1869 324. EBO focus in terms of systems, not in terms of traditional targeting. Information  
1870 activities in EBO aim at specific parts of the system – information systems – and  
1871 their relations to other sub-systems in order to contribute to influencing overall  
1872 system behaviour and capabilities. The spectrum of information systems covers  
1873 those of (potential) adversaries as well as own and those of others (friendly and  
1874 neutral). Information activities may be aimed at individuals, groups, populations  
1875 (audiences) as well as technical components of information systems (targets):

1876 a. '*audiences*' for non-kinetic information activities could be (potential)  
1877 adversary decision-makers, supporting opinion leaders and opinion  
1878 formers, and their followers<sup>48</sup>;

1879 b. '*targets*'<sup>49</sup> for kinetic information activities could be the information  
1880 infrastructure, IT and information-based processes of (potential)  
1881 adversaries<sup>50</sup>; ultimately also humans may become targets, if non-kinetic  
1882 action is ineffective.

1883 325. Effects created by information activities cannot be limited to specific sub-  
1884 systems, e.g., if mass media or electronic emissions are involved. These means  
1885 by their nature may cause side effects on unintended audiences that have to be  
1886 considered and weighed in the planning and approval process.

1887 326. An essential element of the EBE process is co-ordination with relevant civil  
1888 activities, and the synchronisation of respective actions to ensure unity of effort.  
1889 The Info Ops function facilitates the co-ordination of military information  
1890 activities with civil information activities.

## 1891 Section V – Effects-Based Assessment

1892 327. EBA is the basis for the commander to ascertain campaign success from start  
1893 to finish, and provides continuous feedback to the other functions of the EBO

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<sup>48</sup> However, to be able to support the full spectrum of possible operations/missions, information activities may be conducted to reinforce behaviour of friendly audiences and/or to consolidate and modify behaviour of neutrals – to prevent them from becoming adversary or hostile.

<sup>49</sup> In NATO a '**target**' is defined as the object of a particular action, for example a geographic area, a complex, an installation, a force, equipment, an individual, a group or a system, planned for capture, exploitation, neutralisation or destruction by military forces. (AAP-6(2007))

<sup>50</sup> In addition, Info Ops will contribute to maintaining the functionality of, and exploiting own and friendly information systems.

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process. The EBA function addresses the accomplishment of actions, the creation of effects, and the attainment of the end state as expressed in the Synchronisation Matrix while the plan is executed.

328. EBA periodically measures the degree to which the elements of the campaign plan have been established as a function of time. These measurements are based to a varying degree on a combination of qualitative and quantitative analyses. An assessment plan provides the method to assess the progress of the campaign. Measures of Effectiveness (MOE) describe the parts of the system that need to be examined in order to determine whether effects have been (or are being) achieved. Measures of Performance (MOP) describe the parts of the system that need to be examined in order to determine whether the assigned actions have been (or are being) completed. Baseline measures will be developed in the planning phase and collected, where feasible, before operations start.

329. Info Ops contributions to EBA will have to consider short, mid and long-term effects – the latter usually applies to consistent changes in behaviour of human audiences. The Info Ops staff, in co-operation with COEs and SMEs of respective capabilities, will have to apply the respective measures for each effect (MOE) and supporting actions (MOP) which they developed during EBP to cover the whole range from short to long-term. For long-term effects reliable MOE will likely not be available in the early phases of an operation. In these circumstances MOP may provide indicators/trends that permit interim assessment until observable indicators linked to the MOE occur. Assessment in the absence of reliable MOE may ultimately depend on the judgement and experience of the commander and his staff.

330. Assessment of both MOE and MOP can be conducted by using organic means of military capabilities (such as PSYOPS target audience analysis, PA media analysis, manoeuvre and special forces reporting, and INTEL) as well as by outsourcing services (e.g., opinion polls and scientific studies). Assessment is also critically dependent on component reporting of their activities and the effect the component identified they had on the target. Synthesis of all available sources lends legitimacy to the final analysis and ensures follow-on actions are timely and appropriate.

331. Plans can expect to be compromised by developing circumstances, so continuous adjustments are likely to be required during implementation to ensure proper focus on desired outcomes. Based on EBA results, Info Ops have to continue co-ordination throughout the adaptive process to maintain coherence and unity of effort.

## Annex 3A – The Info Ops Element of the Staff Estimate Process

- 3A1. General. The following guidance addresses Info Ops considerations at the various stages of the command estimate process, which can be conducted as either a written Info Ops estimate, or as a thought process that feeds into the overall staff estimate, as required. It should be updated through an iterative process that involves INTEL, Systems Analysis as well as functional/capability expertise and will contribute to overall situational awareness and understanding. The Info Ops staff will provide guidance to INTEL analysts, submit specific Knowledge Requests (KRs)<sup>51</sup>, and coordinate analysis contributions and assessments from capabilities. The Info Ops staff will not perform any INTEL collection or analysis function itself.
- 3A2. Analysis of Strategic and Political Guidance. The Info Ops staff will continuously review the Information Strategy to reaffirm relevancy of Information Objectives, planned desired effects in the information environment and related activities. The Info Ops estimate should contain an updated comparison of strategic guidance and the operational commander's intent and plans. Related assessments should be translated as feedback and advice to superior authorities.
- 3A3. Assessment of the Information Environment<sup>52</sup>. The Info Ops estimate should focus on the analysis and assessment of the information environment in a systemic context including at least relevant actors, specific information systems, and the media. This description and assessment cannot be done in isolation by the Info Ops staff, but needs to be coordinated and draw from functional/capability expertise without duplicating others' analysis efforts. The resulting product should be considered as a summary of collective situation analysis.
- 3A4. Status of Own Information Activities. The Info Ops estimate should include an overview of available own capabilities, tools and techniques for conducting military information activities, including their current state of readiness, involvement in current operations and principle limitations. This part of the estimate should be contributed to by the responsible capability representatives, functional advisors or component LOs. Chapter 1, Section IV and Chapter 2, Annex 2A provide initial guidance for structuring this part of the estimate.
- 3A5. Status of Other Actors' Information Activities. The Info Ops estimate should also include an overview of other relevant actors' capabilities, tools and techniques for creating effects in the information environment, including their (assumed) intent and objectives, current state of readiness, involvement in current operations, principle limitations and vulnerabilities. This part of the estimate should be coordinated with INTEL and the responsible capability representatives, functional advisors or component LOs.
- 3A6. Possible Effects in the Information Environment. The Info Ops estimate should conclude with a list of possible effects, considering all three activity areas

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<sup>51</sup> Traditional: 'Requests for Information' (RFIs).

<sup>52</sup> See Analytical Concept "Development of a Multinational Information Strategy" for a generic taxonomy of the information environment and a list of guiding questions for its assessment.

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1975 outlined in Chapter 1, Section IV. Effects must be formulated in a way that  
1976 describes the physical and/or behavioural state of a part of the information  
1977 environment (see Paragraph 3A3) that results from an action or set of actions.  
1978 They should be characterised as desired or undesired. In addition, the Info Ops  
1979 staff should consider possible trends (developments, evolutions) that may occur  
1980 over time without own interference.  
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### Annex 3B – Info Ops Annex to Plans (Format)

ANNEX O TO  
PLAN xxxx  
TITLE xxxx  
DATED dd mm yyyy

#### INFORMATION OPERATIONS

#### REFERENCES:

#### 1. (xx)<sup>53</sup> SITUATION.

a. General. See main text.

b. Specific.

(1) Information Environment. Summary of mission-relevant aspects of the information environment, taken from the Info Ops Estimate.

(2) Strategic Guidance. Summary of mission-specific strategic and political guidance on information activities (Information Objectives, themes and messages).

(3) Own Information Activities. Summary of the status of own information activities, taken from the Info Ops Estimate.

(4) Other Actors' Information Activities. Summary of the status of other actors' information activities, taken from the Info Ops Estimate.

#### 2. (xx) MISSION.

a. Strategic Command. Statement of the superior commander's intent towards the information environment, taken from the Strategic Directive (if available).

b. Operational Command. Statement of the commander's intent towards the information environment, taken from the main plan, Paragraph 3.a.

#### 3. (xx) EXECUTION.

a. Information Objectives. List of Information Objectives that are to be achieved or contributed to by military means, derived from the Information Strategy and the Strategic Directive (if available).

b. Themes and Messages. Taken from the Information Strategy and the Strategic Directive (if available).

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<sup>53</sup> Abbreviated classification.

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- 2015      **c. Supporting Effects.**      Prioritised list of desired effects in the information  
2016      environment.
- 2017      **d. Primary Contributors.**      Cross-reference to appropriate functional annexes of  
2018      capabilities conducting or contributing to information activities.
- 2019      **e. Key Leaders Engagement.**      Guidance on the development of the KLEP.
- 2020      **4. (xx) COORDINATING INSTRUCTIONS.**
- 2021      **a. Information Operations Co-ordination Board.**      Guidance on the IOCB  
2022      composition and process in support other HQ processes, taken from the  
2023      relevant SOPs (if available).
- 2024      **b. Analysis Support.**      Guidance on INTEL/Systems Analysis support to Info  
2025      Ops as well as contributions by capabilities conducting or contributing to  
2026      information activities, with cross-reference to appropriate functional annexes.
- 2027      **c. Targeting.**      Guidance concerning the coordination of target nominations,  
2028      taken from the relevant SOP (if available).
- 2029      **d. Measurement of Success.**      Reference to effects listed in Paragraph 3.c:  
2030      guidance on the coordinated/collective assessment of MOE.
- 2031      **e. Info Ops Reporting.**      Guidance on contributions to reporting concerning  
2032      information activities and effects in the information environment, with cross-  
2033      reference to appropriate functional annexes.
- 2034
- 2035
- 2036      **APPENDIX:**      Info Ops Matrix      (Format: see Annex 3C)
- 2037
- 2038

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**Annex 3C – Information Operations Matrix Format (Example)**

Serial	Information Objectives	Commander's Military Objectives	Priority	Effects	Themes	Messages	MOE	Co-ordination Requirements	Remarks

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## Chapter 4 – Education and Training

### Section I – Introduction of a New Mind-Set

401. A comprehensive and systemic understanding of the information environment by all decision-makers and their staffs should be the ultimate goal for integrating the information factor throughout analysis, planning, execution and assessment of military operations. The Info Ops function will assist all relevant staff activities by providing advice and co-ordination.
402. It is of utmost importance to understand that Info Ops staffs will never be able to substitute respective leadership qualifications required to cope with all challenges posed to the security environment in modern information societies: the information environment is not a parallel universe that could be looked at independently from 'traditional' or 'conventional' activity; nor can it be dealt with just the employment of a limited number of some 'core capabilities'. Therefore, the Info Ops function requires the application of a generalists' perspective rather than a biased specialist view.

### Section II – Info Ops Staff Skills and Competencies

403. Info Ops staffs should be able to contribute to all aspects of the EBO process and provide advice based on a sound knowledge of the information environment. A vital prerequisite for this is an understanding of the functional capabilities contributing to or performing information activities, and experience of general HQ processes. Info Ops staffs require appropriate levels of experience, training and qualifications to discharge the Info Ops staff activities described in Chapters 2 and 3.
404. Specific Info Ops staff skills and competencies – derived from these staff activities include:
- a. A comprehensive and systemic understanding of the information environment.
    - (1) Basic principles of complex systems (Systems Theory).
    - (2) Basic principles of Systems Analysis ('systemic approach').
    - (3) Basic principles of Operations Research (OR), and Modelling and Simulation (M&S).
    - (4) A conceptual model of relevant aspects of the operational environment for information and information systems:
      - (a) recognition of system structures and dynamics;
      - (b) balancing complexity reduction vs. complexity management;
      - (c) selection and assessment criteria for factors that determine system behaviour.
    - (5) Procedures and structures for the collaboration with personnel/agencies with assigned Systems Analysis/INTEL functions:
      - (a) roles and responsibilities of advisors and analysts vs. planners and operators;

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- 2098 (b) significance of the focusing of planning and conduct of operations  
2099 on information and information systems.
- 2100 (6) Basic principles of intercultural competence and human  
2101 communication.
- 2102 b. Basic knowledge about own and others' capabilities for creating effects in  
2103 the information environment:
- 2104 (1) Options for providing specific direction and guidance (e.g., Information  
2105 Strategy).
- 2106 (2) Available and relevant assets/means/methods (military and civil) for  
2107 creating effects in the information environment, including their capacity  
2108 and employment principles:
- 2109 (a) assets, means and methods for conducting information activities;  
2110 (b) possible effects of mainstream activity in the information  
2111 environment;
- 2112 (c) interfaces and starting-points for synergetic effects and/or trade-  
2113 offs.
- 2114 (3) Basic methods and techniques for the measurement of success (MOP  
2115 and MOE).
- 2116 (4) Legal aspects involved in the employment of above capabilities,  
2117 including ROE.
- 2118 c. Process management skills, including components of information  
2119 management and visualisation techniques:
- 2120 (1) Deepened knowledge and skills for staff duty:
- 2121 (a) possible staff structures (emphasis on particularities of joint and  
2122 combined headquarters);
- 2123 (b) basic staff processes (e.g., planning, targeting), including battle  
2124 rhythm.
- 2125 (2) Methods and tools:
- 2126 (a) Info Ops Estimate;  
2127 (b) KLEP;  
2128 (c) Info Ops Matrix.
- 2129 (3) Recognition of the importance of the establishment and development  
2130 of expert networks, and the collaboration with SMEs.
- 2131 (4) Preparation, conduct and evaluation of co-ordination processes:
- 2132 (a) IOCB (see Annex 2A);  
2133 (b) details of the co-ordination with members of the command group  
2134 and special staff;  
2135 (c) details of the consultation with civil actors.
- 2136 405. Furthermore, Info Ops staff should have gained literacy and/or experience in the  
2137 following areas:
- 2138 a. understanding effects-based thinking and the comprehensive approach;  
2139 b. understanding information as an operational factor;

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- 2140 c. understanding the joint targeting process;
- 2141 d. creativity skills (for adapting plans for information activities to specific
- 2142 environments);
- 2143 e. holistic and analytical thinking skills;
- 2144 f. leadership and moderation skills;
- 2145 g. social competence and communication skills.

### 2146 **Section III – Individual and Collective Training for Info Ops Staff**

- 2147 406. Prior to employment in a multinational (Alliance or Coalition) context, nominated
- 2148 Info Ops personnel should have undertaken a multinational Info Ops course
- 2149 (e.g., at the NATO School or by attendance of a national course offered by a
- 2150 partner nation) and/or have undergone a similar level of national training.
- 2151 407. In addition to formal training courses, individual training can be undertaken with
- 2152 personnel grouped for training depending on their role and function in a HQ
- 2153 staff. Those involved daily with Info Ops, either by being an integral part of an
- 2154 Info Ops staff or indirectly involved through working in another section, will
- 2155 require a higher level of understanding and training than personnel who will just
- 2156 gain some limited exposure during exercises. Additionally there is a general
- 2157 requirement to train all staff to have a basic understanding of the Info Ops
- 2158 process and to train the command groups to understand how Info Ops can
- 2159 benefit them and how to best employ the resources/capabilities at their
- 2160 disposal.
- 2161 408. Personnel augmenting a staff for exercises or operations need to be properly
- 2162 qualified and should have some experience prior to filling the posts. Sufficiently
- 2163 detailed job descriptions for each Info Ops billet should be prepared and posted
- 2164 or distributed during the planning phase for operations or exercises.
- 2165 409. Augmentees to HQs must receive the latest policy, doctrine and SOP
- 2166 information concerning Info Ops prior to filling an Info Ops post. This will enable
- 2167 them to properly prepare for their functions. Failure to do this may cause
- 2168 augmentees to spend several days reviewing basic doctrine and policy instead
- 2169 of fulfilling their post. Attending training courses in Info Ops and related
- 2170 applications will help provide the augmentees with a basis of knowledge and
- 2171 understanding.

### 2172 **Section IV – Training Activities for Key Leaders**

- 2173 410. It is crucial that the key leaders gain an understanding of the Info Ops function,
- 2174 information activities and the effects that can be created. The training of key
- 2175 leaders in Info Ops will greatly improve their understanding of how Info Ops can
- 2176 contribute to the mission, and thereby enable the Chief Info Ops to gain
- 2177 approval for Info Ops contributions to plans and operations within an
- 2178 environment supportive of Info Ops. Training for key leadership can be provided
- 2179 through attendance at various multinational courses (e.g., run at the NATO
- 2180 School) and through national resources.
- 2181 411. Key leader knowledge of Info Ops will also help to ensure that Info Ops
- 2182 becomes central to plans and exercises. The Chief Info Ops should take every

2183 opportunity to brief and update key leaders to ensure they understand the  
2184 importance and central role of Info Ops.

## 2185 **Section V – Headquarters Functional Area Internal Training**

2186 412. It is important that functional staff divisions and specialist staff also benefit from  
2187 Info Ops training to enable them to effectively work and integrate with Info Ops  
2188 staff to maximise the Info Ops contribution to the mission. Training could  
2189 include lectures, pre-exercise briefings, and mini-exercises to develop aspects  
2190 of Info Ops, to ensure that the entire HQ staff is aware of the strengths and  
2191 benefits of Info Ops and that they incorporate them into all unit training.

## 2192 **Section VI – Integrating Info Ops within Exercises**

2193 413. Outside structural exercise planning, there is a real need for the Info Ops staff  
2194 to be fully involved in the preparation of strategic, operational or tactical  
2195 exercises. Info Ops has many links across the spectrum of exercise training  
2196 objectives and operational planning. Info Ops should therefore be integrated  
2197 from the beginning of the exercise planning process through exercise analysis  
2198 and the identification of lessons learned. Integration of Info Ops is considered  
2199 particularly relevant for command post exercises, study periods, seminars and  
2200 map exercises to develop the Info Ops knowledge and understanding of  
2201 commanders and their key staff.

2202 414. Equally important are manpower and forces for exercises. Depending on the  
2203 type of exercise being conducted, serious consideration should be given to the  
2204 manning of Info Ops staff and the expertise required, especially since much of  
2205 the staff is often built through augmentation. Other role players and Directing  
2206 Staffs, who control, coordinate and synchronise the Info Ops contribution from  
2207 the adversary's perspective should be considered early in the planning process.  
2208 There will also be the need for interagency co-ordination and co-operation with  
2209 civil actors such as IOs, NGOs and other civil representatives involved in  
2210 exercising Info Ops.

2211 415. When considering the training objectives of each unit participating in the  
2212 exercise, the type of training, forces and units required should be determined.  
2213 Certain manoeuvre operation elements and the more technical aspects of  
2214 information activities such as EW and CNO are best trained during a live  
2215 exercise, which may include everything from providing tactical jamming assets  
2216 to playing the role of adversary key decision-makers.

2217 416. Early allocation or request for units is essential together with an understanding  
2218 of their intended role in the exercise. The limitations and other restrictions for  
2219 operating those forces need to be resolved in the early stages of planning.

2220 417. An exercise analysis plan should be created as part of exercise planning to  
2221 ensure that valuable lessons identified before, during or after the exercise can  
2222 be addressed. Lessons should be captured during exercise runtime so that they  
2223 can be addressed, changed during the exercise (if necessary) and can also be  
2224 included in later analysis.

2225



## Chapter 5 – Legal Aspects

### Section I – Developments in Modern Warfare and Law

501. The advent of IT has made it possible for adversaries to attack each other in new ways, inflicting new forms of damage and influence. Attackers may use international networks to affect adversary systems without ever physically entering the adversary's country. Additionally, a country's dependence on information-based systems may make those systems particularly attractive targets. Furthermore, the dual-use nature of many information systems and infrastructures may blur the distinction between military and civilian targets.
502. The provisions of International Law, including the Law of Armed Conflict (LOAC), apply to Info Ops. As a result of the rapid technology expansion over the past decades, the virtual nature of information, and the change of focus from manoeuvre warfare to asymmetric warfare, some activities involved in Info Ops may require further consideration under International Law.
503. There is currently no common international understanding as to whether information activities other than kinetic options are comparable to an "armed attack" or to "use of force" in the traditional sense. The dilemma in responding to an opponent's information activities is the difficulty in actually identifying an attack. This is exacerbated when supposed information activities occur during a period of relative calm or reduced international tensions. Investigators may have difficulty differentiating between an accidental catastrophe and a malicious attack. In any case, the response to adversary information activities shall be proportional.

### Section II – Legal Challenges to Info Ops

504. Info Ops challenge existing international law in three primary ways:
- a. First, the intangible damage or cognitive effects that information may cause is fundamentally different than the physical effects caused by traditional warfare. The damage and destruction caused by conventional munitions is easy to comprehend and conforms to accepted views of war. In contrast, the disruption of information systems or the manipulation or corruption of stored or transmitted data or the shaping of human perception may cause intangible damage – such as the disruption of civil or government services or the unconscious and biased decision-making of military leaders – without primary or secondary physical effects.
  - b. Second, the ability of information or an electronic signal to transit international networks challenges the concept of territorial sovereignty. As the world becomes increasingly "networked" with signals travelling across international borders with impunity, allowing individuals or groups to affect systems around the globe without directly or indirectly causing physical damage, the precept of territorial sovereignty becomes blurred. Additionally, such intangible crossing of national borders without causing

any physical effects may not be the type of violation traditionally recognized as a military attack.

- c. Third, information activities which do not cause physical damage may be difficult to define as "attack" or "acts of violence against the adversary" in the sense of Humanitarian Law. Thus, regulations of the LOAC protecting non-combatants and civilian objects partly may not be applicable. Furthermore, in the context of information activities, it is difficult to distinguish legitimate military targets from forbidden civilian objects.

### Section III – Fundamental Questions

505. When examining the relationship between Info Ops and the law – particularly International Law and the LOAC – it becomes apparent that fundamental questions need to be explored:

- a. How do the terms 'use of force', 'armed conflict', 'armed attack', 'aggression', 'violence', 'hostile intent', and 'hostile act' equate or relate to information activities?
- b. Who are considered combatants related to information activities?
- c. How will established legal principles related to national sovereignty be affected by information activities?
- d. How does international law apply in situations where there is no armed conflict or UNSC mandate but where Info Ops are applied, ranging from peacetime to military operations other than war?<sup>54</sup>
- e. When and how is Info Ops targeting restricted by the principles of the LOAC?
- f. How can proportionality be determined for information activities?
- g. What obligation exists to assess reverberating effects?

### Section IV – Rules of Engagement

506. The political/strategic leadership must clearly state not only the objectives for any mission that they task to the military but also the constraints that are to be placed upon that mission and its execution. The adherence to a set of ROE does not, however, guarantee the legality of a particular action; it remains a command responsibility to use only that force which is necessary, reasonable and lawful in the circumstances.

507. Ideally, there should be just a single set of ROE; these should be agreed to by all nations contributing to a Coalition operation. However, national differences often result in additional national limitations on ROE which may be more restrictive than the Coalition's ROE. Clearly, this will be a major factor for the commander to consider when assigning troops to task. The commander will strive, through the auspices of the Strategic Commander or interagency co-ordination procedures and structures, to establish uniform ROE throughout his

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<sup>54</sup> In NATO, the full scope of activities to affect the information environment requires NAC approval.

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2306 command. This process can, however, be lengthy and, thus, the issue must be  
2307 an early component of the planning process.

### 2308 **Section V – Legal Requirements**

2309 508. Commanders are required to consider the legality of their actions, including  
2310 those in the information environment.

2311 509. Existing military capabilities already create effects on information and  
2312 information systems, and therefore a stand-alone study of the law surrounding  
2313 their application is not required.

2314 510. Separate consideration of the legality of using emerging capabilities for the  
2315 purpose of affecting the information environment may be necessary.

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### Lexicon Part 1 – Abbreviations

2339		
2340		
2341	AAP	Allied Administrative Publication
2342	ACOS	Assistant Chief of Staff
2343	AJP	Allied Joint Publication
2344	BILAT	Bilateral Talk
2345	C2	Command & Control
2346	C4I	Consultation, Command, Control, Communications
2347		and Information
2348	CAFJO	Concepts for Alliance Future Joint Operations
2349	CD-CIE	Cross-Domain Collaborative Information Environment
2350	CD&E	Concept Development and Experimentation
2351	CI	Counter-Intelligence
2352	CIMIC	Civil-Military Co-operation
2353	CIS	Communications and Information Systems
2354	CMCO	Civil-Military Co-ordination (EU)
2355	CMCoord	Civil-Military Co-ordination (UN)
2356	CNA	Computer Network Attack
2357	CND	Computer Network Defence
2358	CNE	Computer Network Exploitation
2359	CNO	Computer Network Operations
2360	COE	Centre of Excellence
2361	COMPUSEC	Computer Security
2362	COMSEC	Communications Security
2363	COS	Chief of Staff
2364	CPAO	Chief Public Affairs Officer
2365	CROP	Common Relevant Operational Picture
2366	CULAD	Cultural Adviser
2367	DA	Direct Action
2368	EBA	Effects-Based Assessment
2369	EBAO	Effects-Based Approach to Operations
2370	EBE	Effects-Based Execution
2371	EBO	Effects-Based Operations
2372	ECM	Electronic Counter Measures
2373	EPM	Electronic Protection Measures
2374	ESM	Electronic Support Measures
2375	EW	Electronic Warfare
2376	GENAD	Gender Adviser
2377	HUMINT	Human Intelligence

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2378	Info Ops	Information Operations
2379	INFOSEC	Information Systems Security
2380	INTEL	Intelligence
2381	IO	International Organisation
2382	IOCB	Information Operations Co-ordination Board
2383	IPB	Intelligence Preparation of the Battlespace
2384	ISTAR	Intelligence, Surveillance, Target Acquisition
2385		and Reconnaissance
2386	IT	Information Technology
2387	J1	Manpower Management (staff division)
2388	J2	Intelligence (staff division)
2389	J3	Operations Management (staff division)
2390	J4	Logistics (staff division)
2391	J5	Plans & Policy (staff division)
2392	J6	Communications and Information Systems /
2393		Command & Control Support (staff division)
2394	J7	Training and Exercises (staff division)
2395	J8	Financial Management (staff division)
2396	J9	Civil-Military Co-operation (staff division)
2397	J-ENG	Engineers (staff division)
2398	J-MED	Medical (staff division)
2399	JP	Joint Publication (USA)
2400	KD	Knowledge Development
2401	KLE	Key Leaders Engagement
2402	KLEP	Key Leaders Engagement Plan
2403	KM	Knowledge Management
2404	KR	Knowledge Request
2405	LEGAD	Legal Adviser
2406	LIMDIS	Limited Distribution
2407	LO	Liaison Officer
2408	LOAC	Law of Armed Conflict
2409	MA	Military Assistance
2410	MC	Military Committee (Publication)
2411	MIC	Multinational Interoperability Council
2412	MNIOE	Multinational Information Operations Experiment
2413	MNIS	Multinational Information Sharing
2414	MOE	Measure(s) of Effectiveness
2415	MOP	Measure(s) of Performance
2416	M&S	Modelling and Simulation
2417	NAC	North Atlantic Council

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2418	NGO	Non-Governmental Organisation
2419	OODA	Observe–Orient–Decide–Act
2420	OPP	Operational Planning Process
2421	OPSEC	Operations Security
2422	OR	Operations Research
2423	PA	Public Affairs
2424	PMESII	Political, Military, Economic, Social, Infrastructure, Information
2425		(analysis scheme)
2426	POLAD	Political Adviser
2427	PSYOPS	Psychological Operations
2428	RFI	Request for Information
2429	SIGINT	Signals Intelligence
2430	SME	Subject Matter Expert
2431	SOF	Special Operations Forces
2432	SR	Special Reconnaissance
2433	ROE	Rules of Engagement
2434		

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## Lexicon Part 2 – Terms and Definitions

(to be issued)

2456	
2457	
2458	
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2460	Adversary
2461	Affect
2462	Asymmetric Warfare
2463	Capability
2464	Common Relevant Operational Picture
2465	Comprehensive Approach
2466	Co-ordination
2467	Coordinating Authority
2468	Decision-Maker
2469	Effects-Based Approach to Operations
2470	Effects-Based Operations
2471	Function
2472	Influence
2473	Information
2474	Information Activity
2475	Information Environment
2476	Information Objective
2477	Information Operations
2478	Information Society
2479	Information Strategy
2480	Information Superiority
2481	Information System
2482	Instrument of Power
2483	Intervention
2484	Key Leaders Engagement
2485	Knowledge Development
2486	Network Centric Warfare
2487	Networked Operations
2488	Operational Level
2489	Understanding
2490	Will
2491	Security Environment
2492	Strategic Communication
2493	Strategic Level
2494	System

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2495 Systems Analysis  
2496 Tactical Level  
2497 Targeting  
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